

July 1925

25

July 25

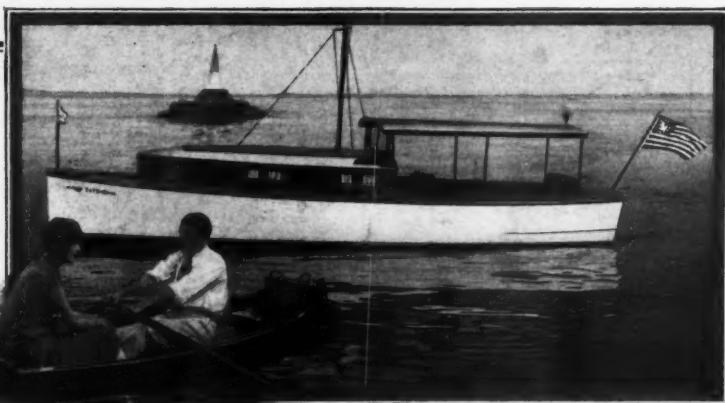
# MOTOR BOATING

v. 36  
July 1925



THE NEW YORK  
PUBLIC LIBRARY

234 928 A  
ASTER, LENOX AND  
TILDEN FOUNDATIONS  
1926



## Elco

the home afloat

Twenty-six . . . \$1,950  
Veedette . . . \$4,850  
Cruisette . . . \$5,350  
Forty-five . . . \$12,850  
Fifty-six . . . \$24,500

Instead of purchasing a boat out of capital, many people prefer to avail themselves of the Elco deferred payment plan.



AT meal time, the door of the locker becomes a dining table. Note the attractive galley, modern lavatory, and comfortable berths. The big 50 H. P. engine gives 13 miles an hour.

Price **\$5,350**

afloat at Bayonne, N. J.

## Yes, this adventure is within your reach!

THE adventure of life on the water, of owning a summer home afloat in which to cruise wherever you wish—this is just around the corner for you lovers of the outdoors.

The Elco Cruisette can be bought for no more money, and run for a season for less, than a seaside cottage that will accommodate six people. And the real solid comfort to be had with this home afloat is not

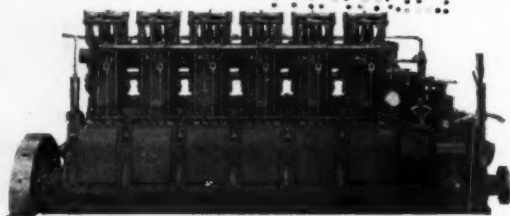
to be compared with summer life ashore!

A call at Port Elco will be a revelation to you. The experienced yachtsmen in charge will show you every detail of the Cruisette—the actual boat just as she will be delivered to you—and will render every possible aid in planning a cruise that will be for you a summer of delightful, healthful adventure. Come to Port Elco—or write for Catalog MG.

Correspondence should be addressed to:

**PORT ELCO—Division of Sales and Exhibit**  
247 Park Avenue and 107 East 46th Street  
Telephone Ashland 5650 NEW YORK CITY  
THE ELCO WORKS Established 1892 BAYONNE, NEW JERSEY

## STANDARD ENGINES



### 135 H.P. STANDARD Oil Engine

The Standard Oil Engine (Full Diesel) Airless Fuel Injection. Low pressure air starting at low revolutions rapidly accelerates in speed or run at long stretches at low revolutions and light load. Maximum operative simplicity and fuel economy.

Built in sizes 90 to 300 H.P.

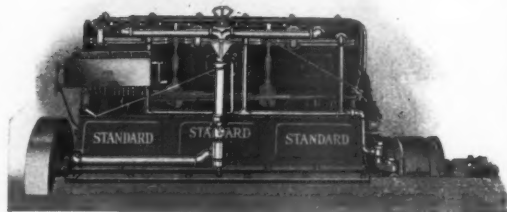
Write us your requirements

Back of the STANDARD Fuel Oil and Gasoline Engines is the

## STANDARD MOTOR CONSTRUCTION CO.

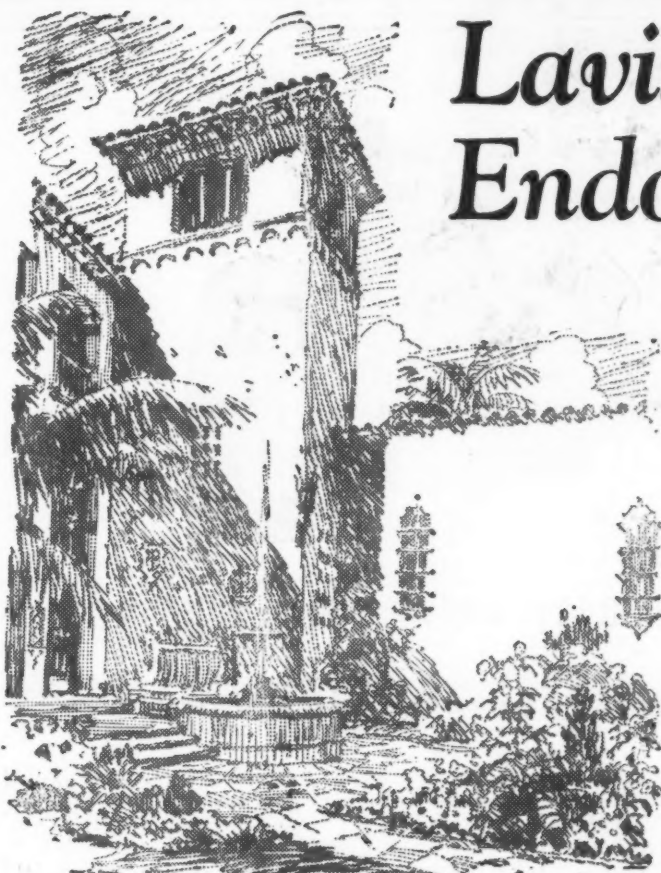
178 Whiton Street

Jersey City, N. J., U. S. A.



50-54 H.P. 6 Cylinder Gasoline Engine.





# Lavishly Endowed by Nature



And Strategically  
situated in the path  
of Miami's

## TREMENDOUS NORTHWARD EXPANSION

MIAMI SHORES was  
from its beginning  
destined for supremacy.

... At Miami Shores Nature's Settings Surpass ...

If there were no other assets than these, Miami Shores property would be an excellent buy today. But the Shoreland Company is adding to Miami Shores still another highly important source of value by carrying out an unusual and distinctive type of development—transferring from the Old World the spirit of the Mediterranean by engineering plan and architectural design.

And at Miami Shores, superbly adapted by Nature for this type of development, with its 10 miles of waterfront properties, is being created an "American Mediterranean," adding to the Greater Miami area a new city with wider streets, with parks, lakes and boulevards, and—above all—with charm and distinction hitherto unapproached.

## MIAMI SHORES

*America's Mediterranean*

125 EAST FLAGLER STREET, MIAMI, FLA.



# Buffalo

Is Offering a 14-30 h. p. Engine Which Sells At

## \$600 Complete

Buffalo Marine Engines have always sold on quality—never on price. The fact that the 14-30 h.p. model is offered at \$600 complete is no change from this policy. This engine is Buffalo quality, every ounce of it, but because it is a popular size which we are able to build in large quantities, the buyer gets the saving.

Four cylinders,  $3\frac{1}{2} \times 5$  in.

Speed, 100 to 1600 r.p.m.

Weight with reverse gear, 690 pounds.

Standard equipment, including electric starter, generator, distributor, storage battery.

All moving parts enclosed by easily removable panels. The construction throughout is most compact.

Three crankshaft bearings, total length,  $8\frac{3}{8}$  in.; diameter of crankshaft,  $2\frac{1}{4}$  in.

Main bearings and connecting rod bearings die cast bronze, babbitt backed.

Removable cylinder heads.

Four point suspension permits the shortest and simplest foundation possible.

Dash choke carburetor control.

Actual tests show low fuel consumption in proportion to power developed.

The 14-30 h.p. Buffalo is not an experiment. Engines of this design have been powering runabouts and light cruisers for three years, and without exception they have given satisfactory service. If your boat calls for an engine of the size of this particular Buffalo model, do not fail to give it consideration, for in it you will find the ideal combination—highest quality and low price.

*Buffalos are built in sizes from 10 to 200 h.p. Tell us about your boat and let us suggest an engine to power it.*

### BUFFALO GASOLENE MOTOR CO.

1274-1286 Niagara Street, Buffalo, N. Y.

*The Engine of Constant Service*



## We are the "Whistling Wind" and the "Barking Dog" Behind the Scenes

**T**HAT'S the worst part of what we do to keep your boat running. We're just like the fellow who does the "dog barking" off stage—you never see us.

The engine manufacturers stick us down behind their motors; cover us up out of sight with a nice steel housing and give you instructions to "pull the handle when you want to go a-stern—push it forward when you want to go ahead."

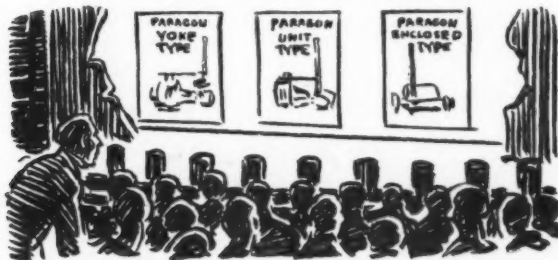
—and so we go along moving you forward and backward for years without your even knowing how we do it—all because we look like part of the engine.

We've been doing this now for seventeen years—so we take this occasion to

**Arise  
Take off our hats  
Salute**

and answer roll call as the makers of the Paragon—the Reverse Gear on your engine you never see because it is so modestly silent and so persistently perfect running that you never have occasion to look beneath the handle to see what it's all about.

*A fact to remember when you need a new reverse gear installed. Made in three types that are worth inquiring about.*



# PARAGON REVERSE GEARS

PARAGON GEAR WORKS - 106 CUSHMAN STREET, TAUNTON MASS.

*When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York*





**ANOTHER TRIUMPH!**

THE unequalled record run of the "Teaser," powered with a WRIGHT TYPHOON ENGINE, from New York to Albany and return, on May 25, 1925, is still another achievement of this Organization.

The heritage of leadership brings with it the obligation to excel.

WRIGHT AERONAUTICAL CORPORATION  
Paterson, N.J.  
U.S.A.



**WRIGHT TYPHOON  
MARINE ENGINE**

# TEASER

## *Used—*

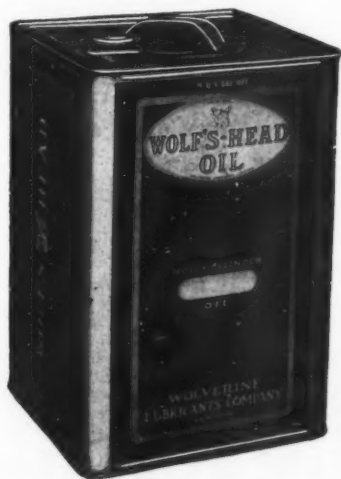


NUMBER 8

*When She Beat the Twentieth Century's  
Running Time from Albany to New York*



A SPEED boat race like the contest between the Teaser and the Twentieth Century is thrilling to be sure. But it is also punishing. The boat's engine had to fight the resistance of water for 138 miles. A grueling test for any power plant, but an easy one for the Teaser's 600 H.P. Wright Typhoon Marine Engine lubricated with **Wolf's Head Oil No. 8**. A finer lubricant for marine engines is not made.



Five-Gallon Can

**Wolf's Head Oil No. 8** is used and recommended by the leading manufacturers of marine engines because of its heat resisting qualities. It minimizes wear and repairs and gives maximum operating economy.

It is characteristic of **Wolf's Head Oil** that it gives the maximum of lubrication in any engine, in any service, and with the least consumption of oil. **Wolf's Head Oil** will give efficient lubrication under conditions that would cause cheap oils to burn up and disappear.

**Wolf's Head Oil** is the proper lubricant for all marine engines. Let us tell you why, and also recommend the proper grade for your motor.

## WOLVERINE LUBRICANTS CO. of N. Y., Inc.

44 Whitehall Street, New York City

*When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York*

**"Watch your step"—use your flashlight!**



To dock safely and easily, use your flashlight! To avoid missteps and possible injury, use your flashlight! Use your Eveready for the hundreds of jobs afloat and ashore that call for instant, bright, safe, portable light. Eveready Flashlights banish darkness and the dangers that skulk in shadows. Improved models meet every need for light—indoors and out. There's a type

The type illustrated is No. 2642, the Eveready 3-cell Focusing Flashlight with the 500-foot range. Handsome, ribbon black-metal case. Safety-lock switch, proof against accidental lighting. Octagonal, non-rolling lens-ring.

Eveready Unit Cells fit and improve all makes of flashlights. They insure brighter light and longer battery life. Keep an extra set on hand. Especially designed Eveready-Mazda bulbs, the bright eyes of the flashlights, likewise last longer.



for every purpose and purse, and an Eveready dealer nearby.

Manufactured and guaranteed by  
NATIONAL CARBON COMPANY, INC.  
New York San Francisco  
Canadian National Carbon Co., Limited, Toronto, Ontario

EVEREADY HOUR EVERY TUESDAY at 8 P.M.  
Eastern Standard Time  
For real radio enjoyment, tune in the "Eveready Group," broadcast through stations—  
WEAF New York WGR Buffalo WWJ Detroit  
WJAR Providence WCAE Pittsburgh WCCO Minneapolis  
WEEI Boston WEAH Cleveland St. Paul  
WFI Philadelphia WSAI Cincinnati WOC Davenport

**EVEREADY  
FLASHLIGHTS  
& BATTERIES**  
—they last longer



# Detroit Broadcasting

Sept. 5th - 7th



## Tune In On the Harmsworth Regatta

**Y**ACHTSMEN from every part of the country will foregather to watch Gar Wood defend the Harmsworth Trophy against the contenders of Europe. This International race promises to out-rival all other regattas in interest and enthusiasm. It will be held at the Detroit Yacht Club, September 5th to 7th.

As the official program of this race and the 150-mile Sweepstakes Race, together with many other like events, the D. Y. C. Main Sheet offers an opportunity to marine advertisers to reach one of the largest, wealthiest yachting centers known.

Known by the company it keeps your advertising message will be conveyed to twenty-five or thirty thousand readers in a manner befitting the highest skill acknowledged the printers' art.

Tune in and get the results that your quality message conveys in prestige and forcefulness to one of the largest yachting centers in the country—Detroit.

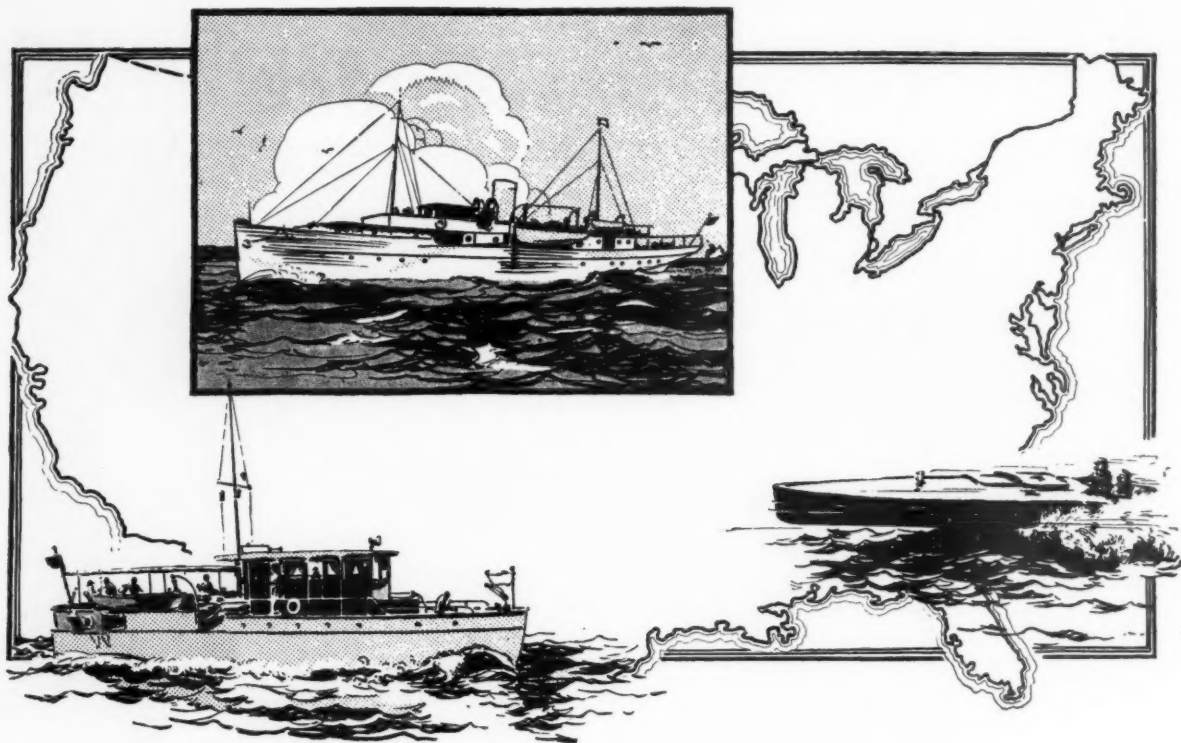
Your space reservations should be received at once. Forms close August 5th.

### The Main Sheet

3101 Woodward Avenue  
DETROIT

W. D. Edenburn, Editor





## Better Engine Results

—wherever you are

**W**HETHER you cruise the seas with a 200 h.p. engine or play around the lakes and rivers with a modest Kicker there is one thing that makes motorboating a constant worry or a continual joy.

This one thing is—engine operation. You can only be sure of thoroughly reliable engine operation if you use lubricating oil that is scientifically correct for your engine.

Correct lubrication for your engine, of whatever type, has been made easy for you by the Vacuum Oil Company in three ways:

(1) Through the manufacture of Gargoyle Mobiloils and Marine Oils of correct grades to suit all types of engines.

- (2) Through a sales service at all leading ports.  
(3) Through a Chart which will tell you the scientifically correct oil for your particular engine.

A good first step to take in determining the correct lubrication for your engine is to send for our illustrated booklet: "Correct Lubrication for Motor Boat Engines." In its pages is a wealth of practical information on how to get the best results from your motor boat engine, and many valuable suggestions towards eliminating engine troubles.

We will gladly send you a copy free. In writing, kindly address Dept. B, Vacuum Oil Company, 61 Broadway, New York City.



# Mobiloil

Make the Chart your Guide

VACUUM OIL COMPANY Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world. NEW YORK, U.S.A.

## Wisconsin

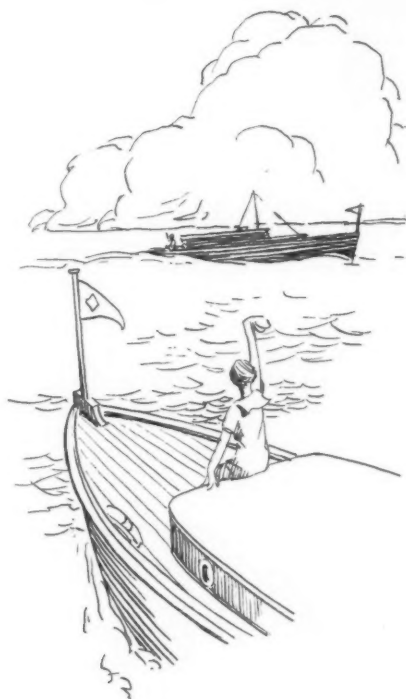
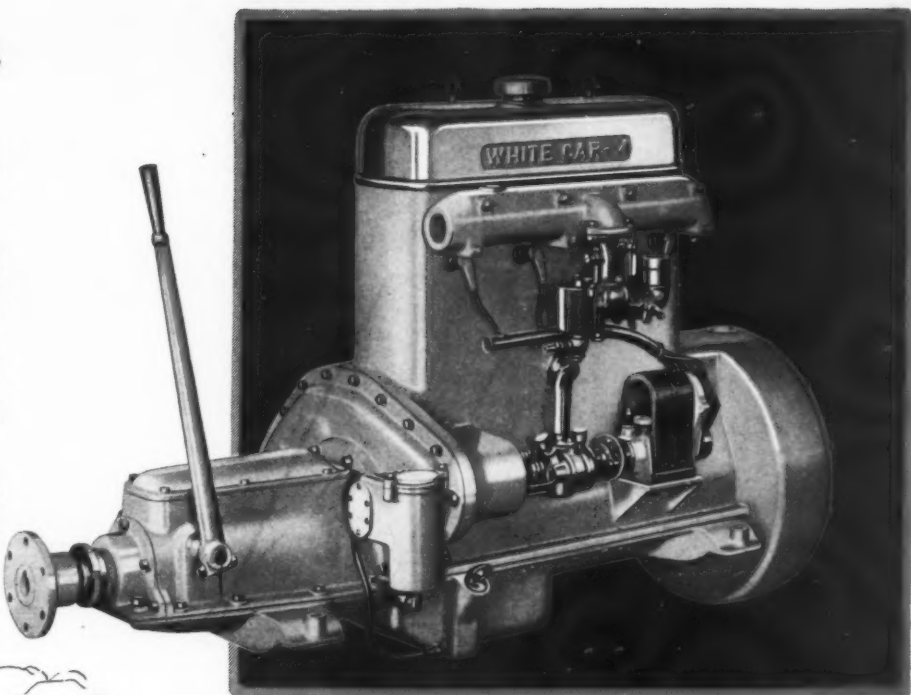
CONSISTENT

**White Cap "4"**—bore 4", stroke 5", displacement 251.2 cu. in. Peak horsepower 42 at 1400 R. P. M. Price \$795.

**White Cap "6"**—bore 3 $\frac{3}{8}$ ", stroke 5", displacement 268.3 cu. in. Peak horsepower 60 at 2050 R. P. M. Price \$995.

**Model "A-M"**—Four cylinders, bore 4 $\frac{3}{4}$ ", stroke 5 $\frac{1}{2}$ ", displacement 390 cu. in. Peak horsepower 54 at 1400 R. P. M. Price \$1095.

Paragon reverse gear. Bosch magneto (impulse coupling). Leece-Neville 12-volt starter and generator. Stromberg carburetor. Oil pressure gauge. Thermostatic cooling control.



**DO YOU** know that White Caps really cost less than almost any comparable motors?

That fact surprises many men who know of White Caps as top-quality motors and therefore expect them to be top-priced.

Back of White Caps is a wonderfully efficient plant, and production methods that keep quality up and costs down.

You do not pay a premium for the extra durability and superior performance, the thrilling "drive" and silky smoothness of White Caps. They are our contribution to motor boating!

Boat owners: Write for detailed data; mention length and beam of your boat.

Boat builders: Let us prove to you that there's more profit in standardizing on White Cap power for your boats. Write for our proposition.

Wisconsin Motor Mfg. Co.

Milwaukee, Wis.

# WHITE CAP "4" and "6"

**MORE  
POWER**





Tobin Bronze is always uniform. Its close-grained structure, unvarying composition of pure metals, together with its carefully supervised manufacture, render it the standard metal for salt and fresh water service.

Tobin Bronze, with the name rolled in the metal, is an exclusive product of The American Brass Company, the world's largest manufacturers of Copper, Brass, Bronze and Nickel Silver products.

It is furnished in Sheets, Rods and Tubes—Turned and Straightened Shafting.

**THE AMERICAN BRASS COMPANY**

GENERAL OFFICES: WATERBURY, CONNECTICUT

In Canada: ANACONDA AMERICAN BRASS LTD.  
New Toronto, Ont.

World's largest manufacturers of Copper, Brass,  
Bronze and Nickel Silver.

"Diana" of the Philadelphia Yacht Club, winner of the Handicap Express Cruiser Championship of Long Island Sound, equipped with Tobin Bronze.

# TOBIN BRONZE

REGISTERED U.S. PAT. OFF.

## FOR UNDERWATER PARTS



Belle Isle Bear Cats, Hall-Scott powered, as they appear on many bodies of waters these days.



119 West 40th St.,  
New York

JULY, 1925

VOL. XXXVI

No. 1

It is not a bit too early now to make your plans and definite arrangements to be present at the New York Gold Cup Regatta, which will be held on Manhasset Bay, Port Washington, Long Island, Saturday and Sunday, August 29 and 30, 1925. It will be the largest racing event in history. Already fourteen boats are entered in the Gold Cup event, the largest number in the history of this great race. In the Miami Beach one-design class there will be twenty-one contestants. In the class for 151 cubic inch hydroplanes, there should be fifteen starters. In addition to these classes, there will be races for the Dodge Memorial Trophy, a race for Baby Gars, a Free-for-All Displacement Class, an Outboard Motor Race, an Aquaplane Race, several classes for cruisers and express cruisers and a 105-mile race for the International Trophy.

For those who own motor craft and expect to attend the Regatta, an excellent view of all the races can be obtained by anchoring near the Race Course, where a view of the racing boats over the entire three-mile course can be obtained. Those without boats will be accommodated aboard other craft anchored on the Race Course. Arrangements have been completed to take care of two thousand spectators in this way. However, as the number of spectators who will desire to view the races in this way may greatly exceed the accommodations, it will be necessary to get one's applications in at the earliest possible moment. Therefore, we suggest that all wishing to view the Gold Cup Races, write to Henry Clay Foster, Secretary of Gold Cup Committee, Hotel Belmont, New York City. There will be no chance to see the races from shore due to the great number of visiting yachts which will completely surround the course.

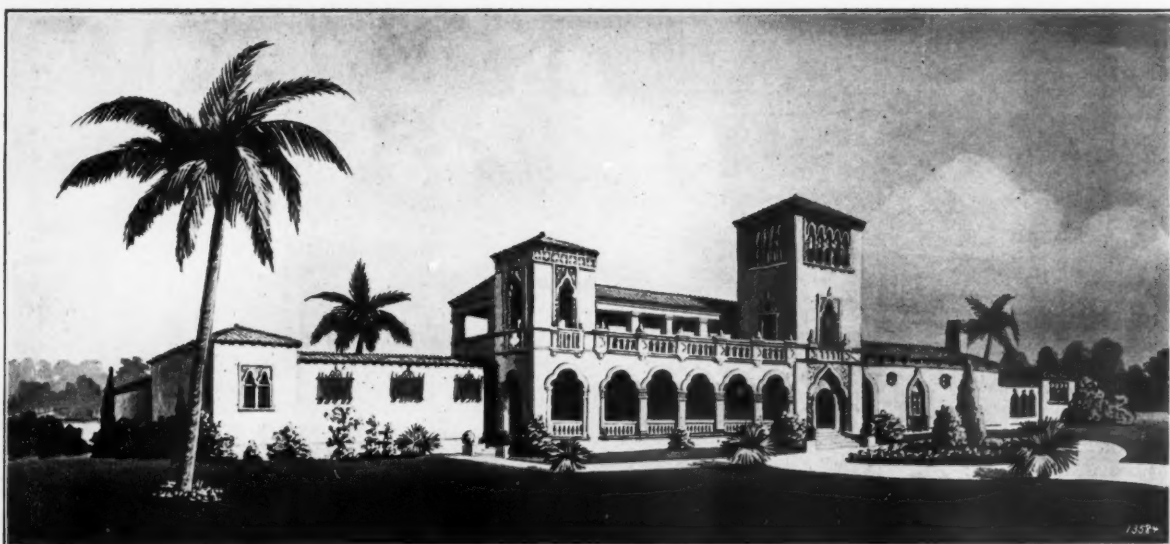
## CONTENTS

Cover Design by A. D. Neville

Cruise of the Yawl Savola.....	13-15
All Sports Bow to the Outboard.....	16-17
Beating The Century.....	18-19
A Glimpse Into Paradise.....	20
Beautiful Georgian Bay.....	21-22
A Boy's Story of Engines.....	23-25
Up The Hudson and Down Again.....	26
By Water Ways to Gotham, Part IV.....	27-29
Nirvana The Finest Houseboat.....	30-31
Pep in Small Boats.....	32
Rambling in a Boat Plant.....	33-34
Radio on The Boat.....	35-37

Sally Ann, A Useful Dinghy.....	38-39
Moonshine, A Speedy Little Hydroplane.....	40-41
Small Motor Boats, Their Care, Construction and Equipment.....	42-45
Prize Question No. 1: Cutting the Rabbit for Stem and Keel.....	42-43
Prize Question No. 2: Auxiliary Service From The Outboard Engine.....	44-45
A Small Size Kermath.....	46
Tom Mix Enjoys Speed.....	46
MacMillan Sails to The Arctic.....	47
Yard and Shop.....	48
Spark Plug Sizes for American Engines.....	124

MoToR BoatinG is published monthly by the International Magazine Company, Inc., William Randolph Hearst, president; C. H. Hathaway, vice-president; Ray Long, vice-president; Joseph A. Moore, treasurer; Austin W. Clark, secretary, 119 West 40th St., New York, N. Y., U. S. A. Single copies, 25 cents. Yearly subscription in the United States and Canada, \$3.00. In foreign countries, \$4.00. When you receive notice that your subscription has expired it is best to renew it at once, using the blank enclosed. When changing an address, give the old address as well as the new and allow five weeks for the first copy to reach you. Copyright, 1925, International Magazine Company, Inc. MoToR BoatinG is fully protected by copyright and nothing that appears in it may be reprinted wholly or in part without permission.



## THE YACHTSMAN'S HAVEN

*On the Romanceful West Coast of Florida*

# DAVIS ISLANDS

TAMPA IN THE BAY

**T**HIS \$30,000,000 development on the broad expanse of Tampa Bay is indeed an ideal anchorage for the yachting fraternity. And here is being provided every facility for the enjoyment of outdoor life.

Land-locked yacht basins, picturesque inland waterways and Venetian canals for smaller craft wind in and out about the eleven and one-half miles of waterfront on Davis Islands. The palatial Davis Islands yacht club shown above borders on the Davis Marine Speedway, facing the new \$2,000,000 Davis Islands hotel. Docking facilities will be provided for the largest yachts, with fuel and water piped to the docks.

The Tarpon, silvery king of this sportsman's paradise, holds sway in the sheltered waters of the bay. Golf, tennis and motoring, too, are in season all year round in the incomparable climate of this magic state down "south of the south."

Davis Islands is only one-half mile from the city hall of the largest community in the state, presenting investment possibilities unsurpassed in all the south. And nowhere else in all the world is there such a rich setting for distinguished outdoor homes.

**D. P. DAVIS PROPERTIES**  
**TAMPA FLORIDA**





Etching by F. Townsend Morgan showing the yawl Savola being towed by a steam trawler

# Cruise of the Yawl SAVOLA

by William S. Ellis

**F**RIDAY: The ambition of every inland water sailor is some day to put to sea. The forty-foot yawl Savola was built on Long Island Sound and had been to Nova Scotia.

I had only sailed her on Barnegat Bay, but felt confident of her ability in open water.

Friday evening, July nineteenth, we cast off from the shipyard at Seaside Park, as our official log keeper, Walter Dower, writes it, "bound for God knows where; headed, however, for Barnegat Inlet, the Atlantic Ocean and sometime Sandy Hook."

The trip down the bay was uneventful except for a gorgeous sunset that promised good weather for to-morrow. Below decks all was action. A good breeze from the southwest kept us well heeled over and it was with difficulty that the cook, Dick Dooner, and the cabin boy, Ward Wheelock, were able to prepare dinner.

After dinner, pots, pans and dishes washed, sailing lights were put in place. Reached Barnegat Light after dark, too late to make out channel buoys. Anchored for night at North Point, within a hundred yards of beach, where the long ocean swell soon put us to sleep.



The crew of Savola seeking the bell buoy off Barnegat in the gathering dusk



Saturday: Up early this morning, with breakfast before sunrise, in order to make Sandy Hook before dark. Wind coming in light from N.W. Never have I seen a more glorious sight than the sunrise. The glow reflected lavender, pink and yellow on the gray, wet sand that lay between us and the sea—the lighthouse a phantom—and gulls in quest of food swooping over and around our small craft.

It was rough going through the Inlet, but after we crossed the Bar the sea was quite calm. What little wind there was carried us well off shore and soon out of sight of land, with schools of porpoises jumping all around us.



A splendid sunset on Long Island Sound

Thinking this a good omen, we trolled our squids for blue fish, but with our usual bad luck.

About noon we were in the Steamers' Lane into Sandy Hook. Passed the Rum Fleet without casualties, having been warned by the Coast Guard before starting not to have any liquor aboard when entering Sandy Hook. We carefully hid our supply under the floor boards, in the bilge, and back of the rudder post. In fact, so well was it hidden that for days afterwards I would find the crew on hands and knees searching for a fresh bottle. So carefully was it stored that it was like hunting the needle in the haystack.

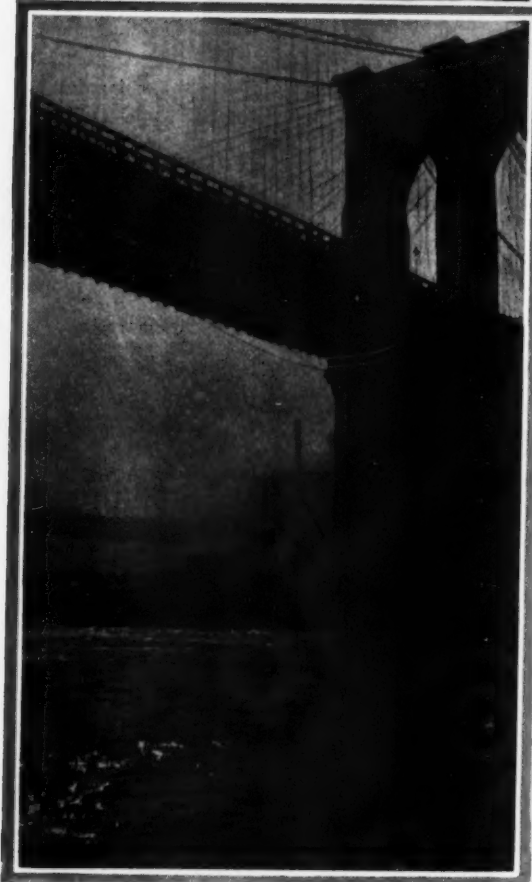
However, we were not searched. In fact, not a hail of welcome did we get as we sailed into Sandy Hook, the port of our dreams.

We anchored at 7 p.m. near the Atlantic Yacht Club at Sea Gate, and were extended every courtesy by club members. My crew was made up of Dick Dooner, no mean sailor and cook; Ward Wheelock, navigator and cabin boy, and Walter Dower, official keeper of the log.

The last two were drawn by the lights of Coney Island and described their trip ashore as follows:

"Just why two more or less respectable business men, breaking the leash of home ties only thirty hours previously, should unconsciously play the role of sailors just getting into port after a long cruise, I don't know, but we were soon playing all the pool games and betting our heads off, and pockets empty. The net gain was one Lady Doll with a shredded wheat skirt, which we took back to the boat. Thinking the captain asleep in his bunk might be missing the home folks, we tenderly tucked her into bed with him. Finding this haven of rest, she quickly went to sleep. What his emotions were on finding her there in the morning was not given me to know, for at the moment of his awakening I was busy washing my alleged face. At any rate, a female had been added to the crew."

Sunday: After an early breakfast, we started up the Bay and into East River. New York should have traffic



The picturesque towers of Brooklyn Bridge in the East River

The coast guard pays us a visit but finds everything in order



cops to take care of the congested shipping. The big steamers would whistle for room to turn into their docks and we signaled back with our little horn.

Brooklyn Bridge never looked so big and New York's sky line possesses an added majesty from a small boat.

We have all been brought up to have a wholesome dread of Hell Gate. We planned to go through with a favorable tide and with our trusty Palmer engine negotiated this passage in great shape.

The entrance to Long Island Sound on a fair morning is a sight that would thrill any yachtsman, especially coming into Larchmont Harbor, our destination, during race week. We dropped anchor in a fleet of over a hundred of the finest craft that could be found.

Tuesday. Through our kind hosts, Mr. and Mrs. Child, and the hospitality of the Larchmont Yacht Club, our week's stay was made most delightful.

Races every day, either by the Star Class, or the 40 and 50-footers. For variety, we were treated to a two-hour trip on the U. S. Destroyer No. 247, cruising up the Sound at 25 knots. The captain gave us a demonstration of a smoke screen, and those who were aboard the submarine had the experience of being submerged.

Wednesday: Cruised to Oyster Bay and spent the night in this attractive land-locked harbor. Just over the hill is the grave of our distinguished Ex-President Roosevelt. One can almost feel the influence of this great personality. This harbor is very deep and is the home port of many famous yachts. The Seawanhaka-Corinthian Yacht Club is located here.

Thursday: A sail up the Sound to Lloyds Harbor and then across to Greenwich, Connecticut and back to Larchmont makes a trip long to be remembered.

Dinner at the Larchmont Yacht Club and in the evening the club put on a series of good boxing bouts by local talent.

Friday: Followed the races in the morning and back in time to see the swimming and diving contests.

Stuart Campbell from Philadelphia joined our crew and was assigned job of deck steward.

In the evening a fancy dress party at the club. The Savola crew all went as pirates. Walter Dower can best report this party:

"In the first place, the captain took up there, and was morally responsible for the people we met. I remember such a one. She was catapulted at us straight from a Flower Festival in Seville. Gee whiz!—gosh and damme, what havoc she wrought! Had it not been for the stern New England conscience and strength of character of our host and captain, five homes would have been wrecked right there on the lot, or lawn, or ballroom floor—in fact, any place she happened to be. A law should be passed prohibiting such fascination in one of her sex.

(Continued on page 102)

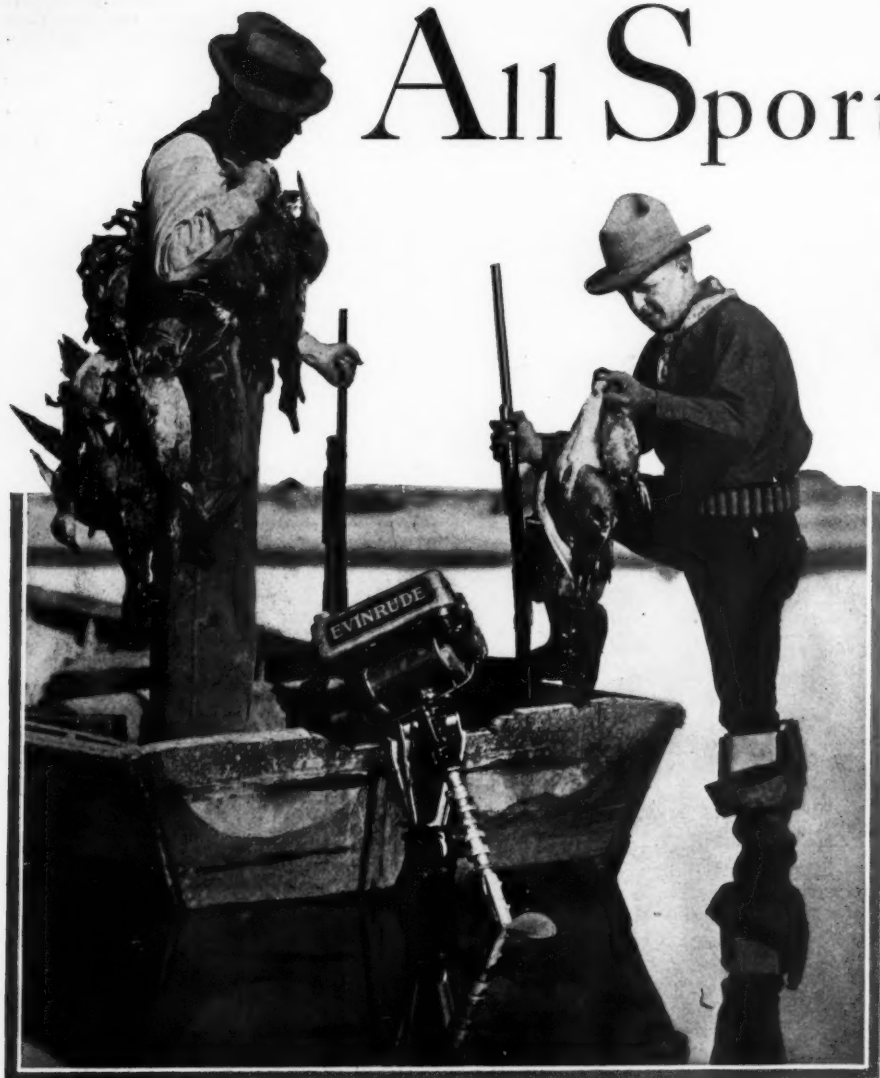


A study in reflections. The yawl Savola drifts lazily on a quiet day on Long Island Sound

# All Sports Bow

*There is No Branch of Outdoor Water Recreation in Which the Useful Little Outboard Engine Does Not Fulfill a Necessary Part. Their Help Benefits the Fisherman, the Yachtsman and the Pleasure Seeker*

Equally useful for service around the large yacht. A good healthy work boat equipped with an outboard engine can be employed for innumerable jobs which require speedy mobility and large capacity



There is nothing like a good husky outboard engine to move a boat quickly to and from the best shooting points where the biggest bag can be taken. The sturdy power of the little engines enables them to speedily cover tireless miles

The fishermen having returned from a very satisfactory expedition to the deep waters of the ocean, arouses the curiosity of the troop of boy scouts, who express much interest in both the large shark, as well as in the small outboard engine



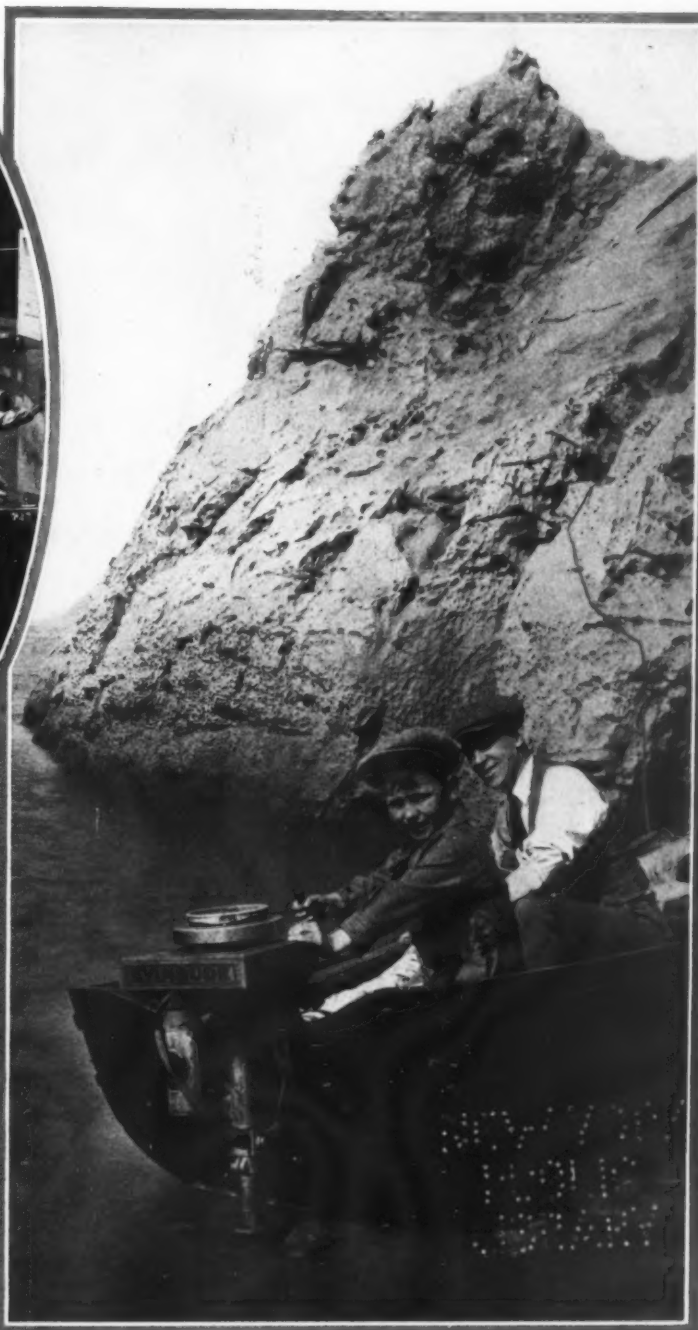


TO NEW YORK  
PUBLIC LIBRARY  
234928A  
ACTOR, LENOX AND  
TILDEN FOUNDATIONS  
R 1926 L

# Wo the OUTBOARD


Outdoor  
ch the  
engine  
ssary  
ts the  
n and

e  
A  
t  
d  
r  
d



Even the youngsters enjoy playing with the outboard engines on the small boats. Young Jackie Ford is very much interested in the little engine and has quickly learned how to start and stop it as well as to handle the boat with skill. The simplicity of the operation of these little engines makes it possible for the unskilled to handle them with safety





**R**EMARKABLE view taken from one of the seven air-planes which accompanied the Baby Cars on their run down the Hudson, showing Baby Car IV running abreast of the Twentieth Century Limited through the Highlands of the Hudson.

# Beating the CENTURY

*An Account of the Most Thrilling and Spectacular  
Motor Boat Ride Down the Hudson Ever Attempted*

By CHARLES F. CHAPMAN

*Navigator and Time Keeper Aboard Baby Gar IV*

ON May twenty-sixth the most spectacular boating event in history, from the standpoint of the general public, took place. On this day Commodore Gar Wood ran two of his speed runabouts down the Hudson River, starting from the Albany Yacht Club at the same time that the Twentieth Century Limited pulled out of the Albany station for New York. Although the train left Albany some forty minutes ahead of schedule and was forced to loaf all the way down the river, yet Commodore Wood in his Baby Gar IV arrived at the Columbia Yacht Club, New York, thirty-eight minutes before the train reached Grand Central Station and made the distance in some seven minutes' faster time than the best scheduled running time of the Century.

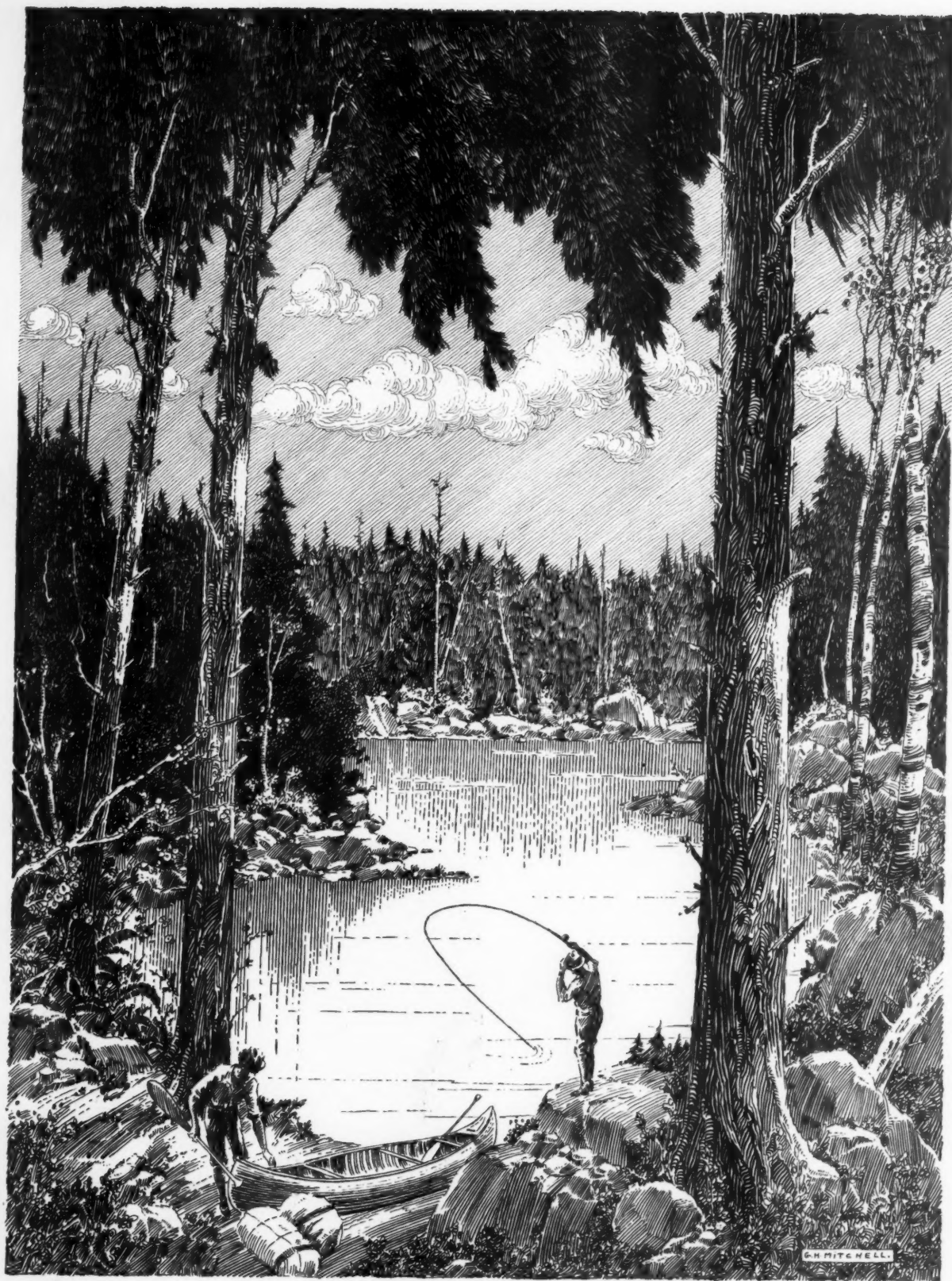
The event was heralded in the press of the country for fully a week before it happened. All news and pictorial gathering

(Continued on page 108)

Crew being interviewed at the finish



Baby Gar IV, which beat the Century, running on the Hudson



## A Glimpse Into Paradise

*untouched by human hands  
all nature surrounded by  
infinite majesty*



# Beautiful Georgian Bay

*A Wondrous Cruising Country—The Finest on the Continent, Described in Pictures and Prose by the Artist Author. A Trip Through Georgian Bay—One Which Will Never Be Forgotten*

By G. H. MITCHELL



THE man that buys a motor boat magazine has a reason—it may be in his mind to peruse the ads in pursuit of a bargain in a cabin cruiser, an open boat for his summer camp, or he may need a rowboat or canoe, but this does not always follow. The articles and stories bring him close to nature—something he loves and dreams about during the long Winter months.

The purpose of this article is to bring home to all lovers of nature a cruise or canoe trip that will live in your memory for many years in the future as the most picturesque trip through fairyland you ever dreamed of.

I have set down upon these pages sketches of a few spots en route which appealed to me—and I could fill volumes should I have ventured to draw all these wondrous views that came before my vision—should you carry a kodak with plenty of films these pictures in after years will recall to mind the dear memories of a trip never to be forgotten as my sketches have to me.

Each good thing in life we like to pass on to our fellowman so he, too, can enjoy, and I can honestly say I have covered most of this country—but the place that lives in my mind as the greatest of all—is the trip for you as follows:

One hundred and ten miles northwest of Toronto nestles a quaint little town called Penetangnishene (meaning, in Indian, Rolling sands), and is the second oldest town in Canada. The Grand Trunk Railway runs right out on a wharf—within one hundred feet of the water's edge where a passenger steamer leaves for Parry Sound, daily except Sunday—a trip of sixty miles.

Alongside of this wharf, a boat builder has his plant, who has been in this same spot for over thirty years—making a complete line of skiffs, canoes, launches and speed boats, as well as cruisers, and not a stone's throw away another manufacturer of gas engines.

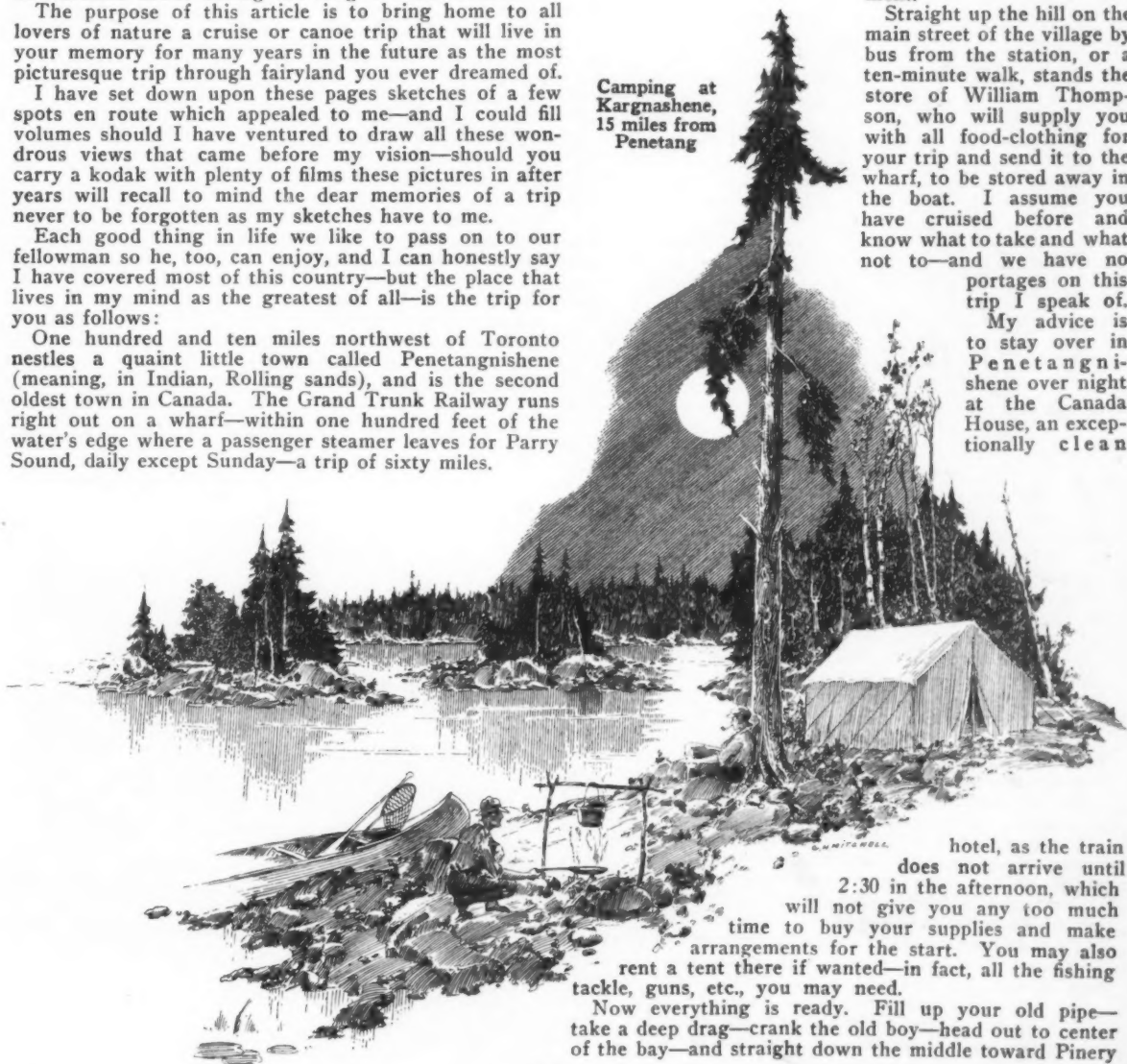
In this establishment you may rent boats of every description, gas and oil, and all the requirements for an extended cruise as to equipment.

Straight up the hill on the main street of the village by bus from the station, or a ten-minute walk, stands the store of William Thompson, who will supply you with all food-clothing for your trip and send it to the wharf, to be stored away in the boat. I assume you have cruised before and know what to take and what not to—and we have no

portages on this trip I speak of.

My advice is to stay over in Penetangnishene over night at the Canada House, an exceptionally clean

Camping at Kargnashene, 15 miles from Penetang



hotel, as the train does not arrive until 2:30 in the afternoon, which will not give you any too much time to buy your supplies and make arrangements for the start. You may also rent a tent there if wanted—in fact, all the fishing tackle, guns, etc., you may need.

Now everything is ready. Fill up your old pipe—take a deep drag—crank the old boy—head out to center of the bay—and straight down the middle toward Pinery



Point. Notice the air. God! It's good enough to eat! Off in the distance the lumber mills and box factories at the water's edge, and beyond on each side of you the hills with homes spotted here and there—a quaintness about this view that memory cannot recall its duplicate.

Three miles out from your starting place, on the right of the bay as you chug along, stands the old reformatory for delinquent boys, but changed now to a state asylum. A long pier runs quite a long way out into the bay from the shore approaching the grounds of this institution, and at the extreme end, a lighthouse upon the pier. About a mile further on stands an island, bleak, with another light to show the way. Keep about center to the left between this island and the opposite shore beyond this island, with the light about another mile, the mainland to your left, and at the point of this land you will see tall sand banks, and upon the top heavily wooded. Do not turn here as yet, as the water runs shallow from this point, which is called Pinery Point—about a mile to a buoy before you can turn with safety. Then straight across a big body of water toward the land in the

north until you come to Minniecognashene (the island of blue-berries), where a large summer hotel stands, with many cottages surrounding the main hotel.

Here one may stop for a meal or to fuel up, as from here on, for over one hundred miles, you pass through a paradise of islands, in their primitive form, untouched by human hands—just built by the hand of God—that stand there as sentinels guarding the secrets of mysterious nature.

From this island of Minniecognashene is the real beginning of your cruise, and live with me a while within this network of islands, thirty thousand of them surveyed by the Canadian Government, not speaking of hundreds or more not registered.

You can catch lake trout weighing up to thirty-five pounds



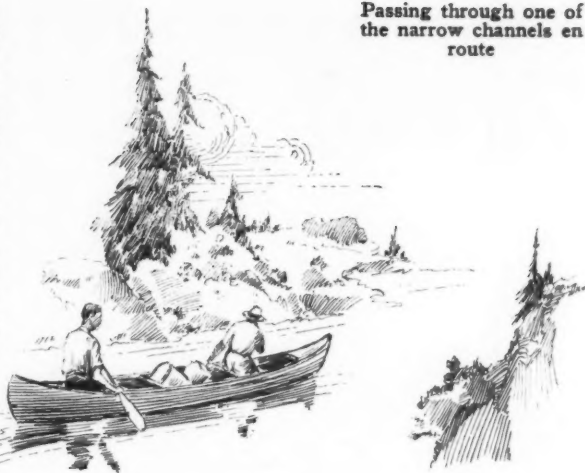
Get out the rod and attach a small skinner spoon to line—say No. 3—and another troll with a No. 9 for musky or pike, not failing to have swivel or two so the line will not twist—slow down to trolling speed, as further up the shore you will want that fish to grace the frying pan.

An occasional island will have a summer cottage on it—but you will pass hundreds that are inviting a camp for the night; pick any one of them—oh! men, words fail me to adequately express one's innermost feelings that course through one's blood, to drink in all of this tranquil solitude—out here where all living things are in tune with the infinite—the sweet air filled with the tang of the pine, the cedar, the balsam, and before your vision the clouds of changing silks, the islands silhouetted against the setting sun in their grotesque shapes; the water so clear, so pure, taking on the tints from the heaven above as the sun silently fades from your sight.

The campfire is now burning—the coffee boils and the aroma of bacon frying in the pan—and that crisp fish, caught only an hour ago—a feast for kings—yea, a morsel that no man has ever tasted at his club, or home, or the most famous hotels in the world.

You can hear the water gently lapping against the rocks on the shore's edge. Darkness closes in—far out on the bay the call of a loon—the whip-poor-will in its plaintive voice warbles from yonder island—and the honk of the bull frog across the water. The moon is slowly rising above the majestic pines and dark shadows dance upon

Passing through one of the narrow channels en route



the water—the camp fire crackles, while you lean against the tree trunk smoking your pipe in silence—not a care in the world—a master of all men—a monarch of all you survey—what place? what condition? what environment, soothes the tired nerves, and puts in us all a greater love for all humanity than to dwell in this ecstatic wonderland with a peace in your heart that passeth all understanding? The fire dims down, and sleep calls you but not before you are lulled to sleep by the whispering needles in the pines above you as they gently sway in the soft breezes.

Awake in the morning as the first ray of light brushes the darkness away, an early plunge in this pine clear water before breakfast, and your blood tingling—refreshed after a peaceful sleep in the great outdoors.

Four miles up the shore from Minniecognashene you pass Whalens landing—and from there about two miles further you come out in an open stretch of water following the shore to the right toward Split Rock and Gohome bay—far out on the bay to your left—three small islands stand, called the watchers, and off from these an island Giants Tomb—which none can mistake from its peculiar tomb-like shape. On the south end of this island a light house shows the way for lake steamers toward Collingwood and other points—the east side of this tomb—crosses a sand beach the full length (Continued on page 98)



Hundreds of beauty spots where the big ones hide

# A BOY'S STORY of Engines

by Alfred F. Loomis

## Chapter II

### *The* Four-Cycle Motor

*The Secrets of the Engine's Interior Are Exposed to the Inquisitive Gaze of Youth. A Simple Explanation of the Parts and Their Functions of Four Cycle Engines Explained in Simple Language for the Particular Instruction of the Boys, Our Future Yachtsmen.*

**B**EFORE taking up the principle of the four-cycle engine I want to repeat as nearly as I remember it the fable of the woman who knew nothing whatever about making shirts.

Happening one day to pass the cottage where this woman and her husband lived, a stranger was attracted by loud cries and the sound of some one being belabored with a club. Looking in at the door, the stranger beheld a man kneeling on the floor with a sheet thrown over his head. A woman stood beside him with a club in her hands, and every few seconds she raised the club and brought it down upon the crown of the man's head. The man groaned and cried again, but offered no resistance.

The stranger, being much amazed by this exhibition, made his voice heard above the din and asked the good woman what she was doing. She, glad of the opportunity to rest her arms, laid aside her club and said:

"I am making a shirt for my husband because the one that he had when I married him is entirely worn out. In order to fit properly, the shirt must have a hole for my husband's head to go through. I have never done anything of the kind before, but it seems to me that the best way to make the hole is to wear out the cloth. I am doing that with my club. It is indeed a slow process, and I am afraid my husband will be dead before I wear the hole through. However, he must have a new shirt, dead or alive."

So saying, the woman picked up the club and was about to beat her husband again when the stranger cried, "Hold, I have a better idea."

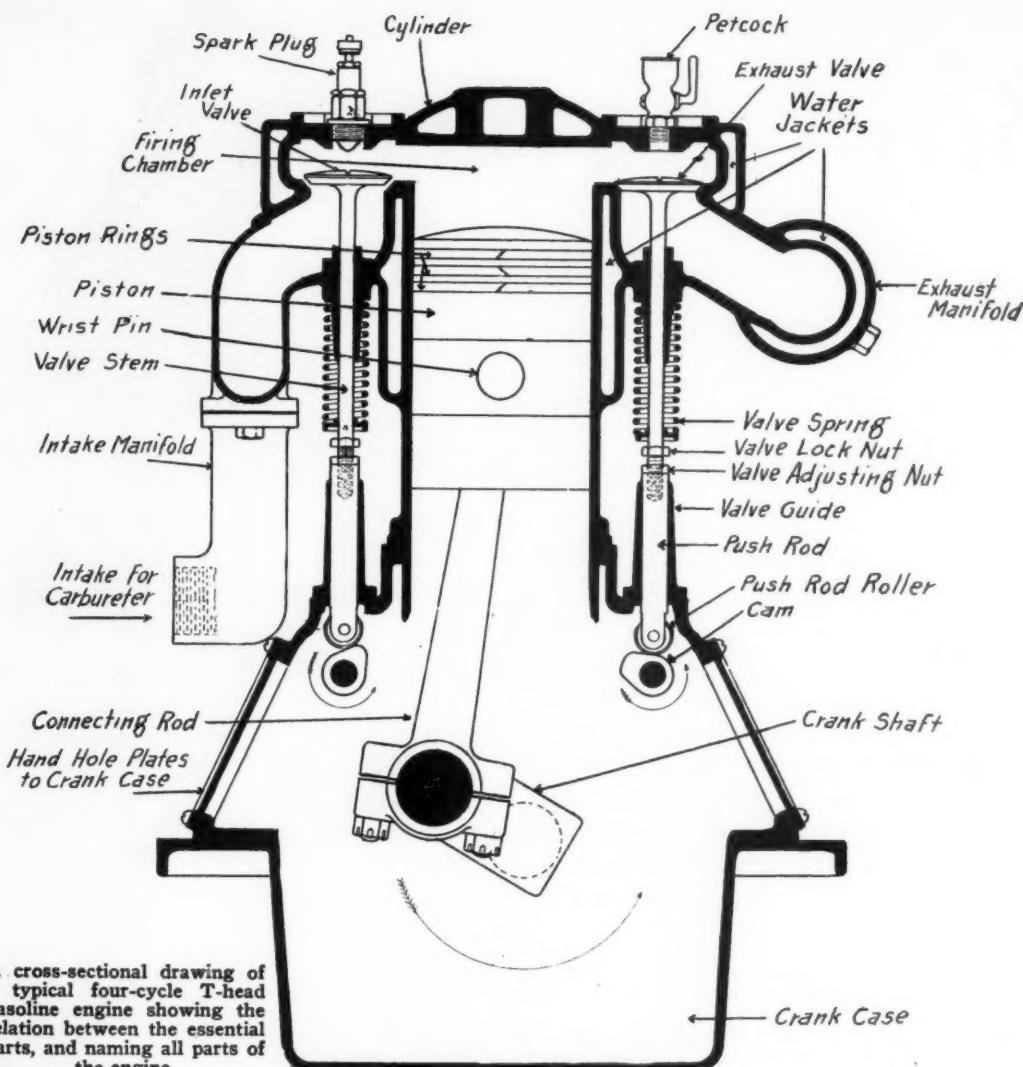
Thereupon the stranger took the sheet from the husband's bruised and bloody head, and with a pair of scissors which he chanced to find in his pocket, cut a hole in the middle of the cloth. The husband uttered loud

cries of joy, marveling that there was anyone in the world as intelligent as the stranger; but the wife was not at all convinced that her own way of making the hole was not the best.

This fable, the moral of which is left to your own imagination, seems to have little to do with modern marine motors. But it serves to introduce to us a brother of the woman who did not know how to cut a hole in a piece of cloth. This character has never before appeared in print, but the fact is that when the stranger had said goodbye to the cottagers, he walked down the road a piece until he came to the place where the brother lived.

It so happened that the brother kept a flock of ducks and that in his front yard there was a large tub from which they drank. The water in the tub was very dirty, and as the stranger came up he found the owner of the ducks in the act of dipping a bucketful of muddy water out of the tub. When the bucket was full to the brim the man walked to the well, emptied the dirty water on the ground, refilled the bucket with fresh water, returned to the tub, and poured in the clean water. Thereupon the man dipped out another bucket of dirty water and repeated the selfsame process.





A cross-sectional drawing of a typical four-cycle T-head gasoline engine showing the relation between the essential parts, and naming all parts of the engine.

The stranger watched this curious performance for fifteen or twenty minutes, during which time the water in the tub gradually became less dirty, and then he said:

"My good man, will you be kind enough to tell me what you are doing?"

"Yes," replied the man—and it was evident from the tone of his voice that he was inordinately proud of himself—"I am changing the water that my ducks drink. For many years they drank the same dirty water, but I have noticed that they thrive better on clean water, and I am the inventor of what I call the two-cycle method of changing the water in the tub. Nothing could be more simple or effective than my two-cycle method, for, as you will see, there are no valves to get out of order. I merely dip out a bucketful of dirty water in one motion, and, using the same bucket, pour in clean water in another motion. Thus in two motions I complete the cycle of operation."

"Very true," said the stranger, "but don't you see that there will always be some dirty water left in the tub? Have you ever tried what I call the four-cycle method of changing it?"

"No," said the man, "and I do not think it can be an improvement over my own method. However, if you wish to amuse yourself you may show me your four-cycle method."

So the stranger with a firm hand up-ended the tub and poured the contents on the ground. "That is one

motion," said he. Then he picked up a handful of grass and thoroughly cleansed the inside of the tub. "Motion number two," said he. Then he carried the tub to the well and pumped it full of clear, sparkling water. "That," said he, "is motion three, and the fourth motion of my cycle will be completed when the ducks again dirty the water."

Despite the fact that the brother-of-the-woman-who-did-not-know-how-to-cut-a-hole-in-a-piece-of-cloth had never before seen such clean water in a tub, he was not convinced that the four-cycle method was better than the two-cycle. At last accounts, he and the intelligent stranger were still arguing the matter.

But we, at least, see from this the basic fault of the two-cycle engine. The cylinder is never quite emptied of the exhaust gases, and never quite filled with the fresh gases. Hence it can never develop as much power as it should.

The four-cycle engine, it is true, requires twice as many strokes of the piston to complete the cycle of operation, but in these four strokes the cylinder is thoroughly cleansed of its burned gases, and completely filled with new explosive vapor. Hence it develops the utmost power of which a given size of cylinder is capable.

To understand the four-cycle motor we must forget some of the things we have learned about the other type and become acquainted with a few new essential parts. The piston head of the four-cycle, for instance, has no



baffle plate, but is as smooth as the manufacturer can make it; and the raw fuel is never intentionally admitted to the crankcase.

Instead of ports for the admission and escape of gas, the four-cycle motor is provided with valves. These are usually of the poppet type and consist of straight stems with disc-like heads. They are located in or near the firing chamber of the cylinder and thus above the upper limit of the piston stroke. In some engines the intake valve, which admits the gasoline vapor to the cylinder from the carburetor, is opened by suction. Usually, however, both the intake (or inlet) and the exhaust valves are mechanically operated, being opened by cams and closed by spiral springs.

A cam may be loosely described as the bulging part of a lopsided wheel. If you turn such a wheel and place a stick against the upper rim, you will find that the bulging part raises the stick in sliding under. In an engine, of course, the cam is very small, and instead of being a bulge on a wheel, it is a projection from a shaft.

This shaft, which is revolved by a gear on one end of the crankshaft, is called the camshaft, or half-time shaft. The second name derives from the fact that the camshaft revolves at exactly half the speed of the crankshaft. This reduction in speed is accomplished by putting twice as many teeth in the camshaft or driven gear as there are in the crankshaft or driving gear.

The necessity for halving the speed of the camshaft is as follows: Each cam on the shaft opens its corresponding valve once in each revolution. But the valve is required to open only once in every other revolution of the crankshaft. If the speed of the camshaft is made exactly half the speed of the crankshaft, then the former will revolve once while the latter revolves twice, and the cam will open the valve at the proper time.

### The T-Head Engine

The type of four-cycle engine easiest to picture to the mind's eye is the T-head, so called because a cross-sectional view of the cylinder and firing chamber resembles a capital T. The cylinder is the leg of the letter and the firing chamber and valve pockets form the arm. In one pocket is the inlet valve, and in the opposite pocket is the exhaust valve.

Now, placing our hands on the flywheel at the moment when the piston is at the top of the cylinder, we turn the wheel over. As the piston starts to slide down the cylinder the inlet valve opens. The suction draws a charge of gasoline and air through this valve from the carburetor. When the piston has come to the bottom of its stroke and the cylinder is full of the explosive mixture the intake valve closes. This completes the suction stroke.

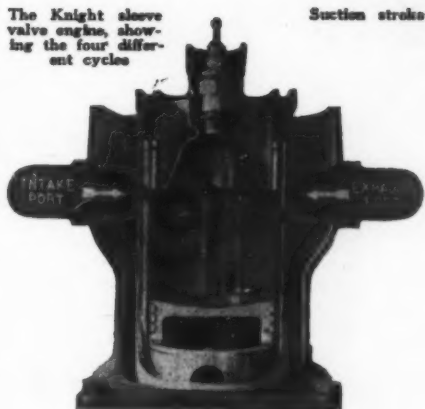
Next, as the flywheel continues to revolve, the piston ascends the cylinder and compresses the charge of gas in the firing chamber. Both valves remain closed during this compression stroke. In different engines the compression varies from 55 to 75 pounds per square inch.

Up to this time the crankshaft has made one complete revolution and no active work has been performed. We have merely set the stage for the dramatic action which occurs at the top of the compression stroke. At this instant an electric spark is produced in the firing chamber, and the piston is forced down again by the expansion of the burning mixture. This third stroke in the series is the most important. It is called the impulse or power or firing stroke.

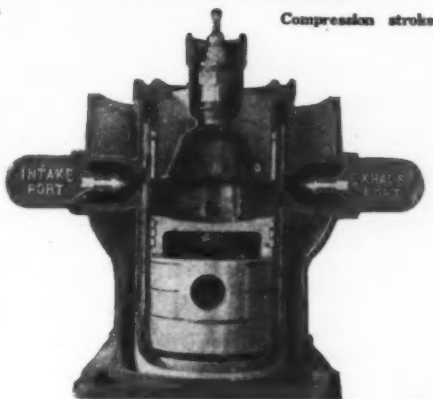
When the piston again approaches the bottom of the cylinder the exhaust valve which is set in the head opposite the intake valve begins to open. The piston, rising once more, pushes out the burned gases, and the cycle of

(Continued on page 134)

The Knight sleeve valve engine, showing the four different cycles



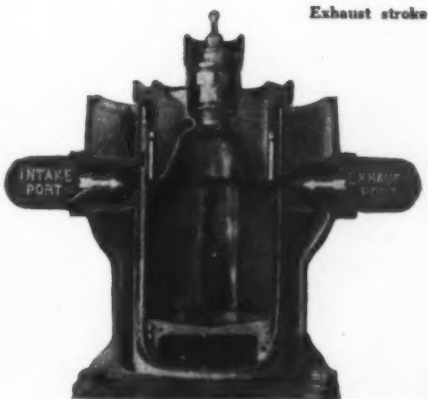
Suction stroke



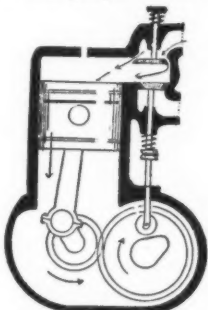
Compression stroke



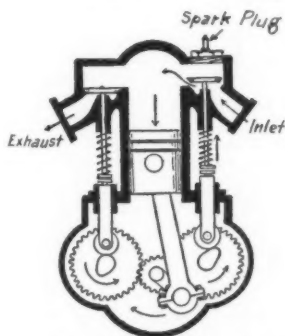
Power stroke



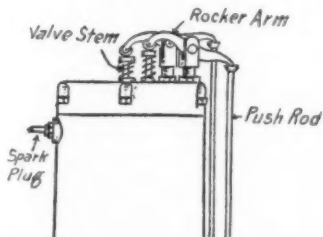
Exhaust stroke



One form of L-head engine with the inlet valve in open position



The T-head engine, inlet valve open and cams driven by the gears from crankshaft



Exterior of the push rods and valve mechanism of the overhead valve engine





Teaser finishing her run down the Hudson in three hours, five minutes. The up-trip took two hours, forty minutes

# UP *the Hudson* AND DOWN Again

*Teaser Powered With a Twelve Cylinder Wright Engine Breaks All Distance Records*



Crew of Teaser for the record-breaking run, Geo. J. Mead, who was in charge of everything, is at the wheel

THE old Hudson never was so popular as she has been this spring. Everyone who owns a motor boat which he thinks can beat his neighbor's is talking about a speed test up the Hudson from New York to Albany or vice versa. The public press has caught the fever, too, and most of the newspapers in the country have been devoting front-page columns to the news every time a boat has gone the distance faster than train time. This has happened several times during the past month, and more trials are scheduled for the very near future. There is even talk of a perpetual trophy to be awarded each year to the owner of the boat which makes the fastest time during the year between the Albany Yacht Club and the Columbia Yacht Club, New York City.

To Teaser, owned by Richard F. Hoyt, goes the credit for making the first fast run between the two cities in recent years, and the fastest, too. Last year several of us set out from New York in Teaser, one cold morning early in December. It was very icy on the lower Hudson, but we managed to dodge most of it, but by the time the upper stretches of the river were reached, there were no clear spots large enough to let a speed boat through. Therefore, when

(Continued on page 130)



A landing on the north shore of Lake Michigan near Point Detour

# By <sup>Water</sup>ways to GOTHAM

By LEWIS R. FREEMAN

## On the Tracks of the Voyageurs

*Storm and Weather Cause Difficulties for One Man Crew  
on an Unusual Voyage from Milwaukee to New York in  
an Elto Engine Driven Boat of Eighteen Feet Length*

### Part IV

MY departure from the island barrier at the mouth of Green Bay marked the beginning of what I had come to feel would be the most arduous, and yet at the same time the most interesting, stage of my voyage. From Milwaukee to and through the Sturgeon Bay Canal I had skirted a sandy-beached coast, with towns and harbors at frequent intervals and the intervening regions taken up with cultivated farms. Green Bay had presented a rocky coast, but one, withal, so thickly fringed with summer resorts that the navigator really ran more risk of colliding with pleasure craft than with shoals. But through the cliffy portals of Death's Door I had pushed into waters bordering a zone of comparative wilderness which, with only slight and rare breaks, would continue around the reef- and shoal-beset north coast of Michigan and Huron and on down to the foot of Georgian Bay. Hundreds of miles of this rocky and desolate mainland and island coast, though they had wooed the voyageur, had never won the settler; other

extensive stretches, knowing ephemeral settlement, had reverted to wilderness under the blighting touch of the lumberman, who followed the forest primeval west and left destruction in his wake. Nature, intervening to heal the man-made wounds, had restored to the ravaged regions a semblance of the smiling face they had presented to the red Indians and the pioneers. But the Indian and the voyageur had passed never to return, and the day of the permanent settler was not yet. The north coasts of Lake Michigan and Huron, with their fringing islands, constitute in many respects the most attractive stretch of unspoiled wilderness in readily accessible regions of temperate North America.

Yet the appeal to fancy in the promise of action along the rockbound, half-forgotten coasts and channels ahead was not stronger than the challenge of the record of my predecessors, The Men Who Had Shown the Way. The tangible lure of the Present was not more potent than the glamorous enchantment of the Past. For at the



Watching the surf roll in at St. Martin's Island

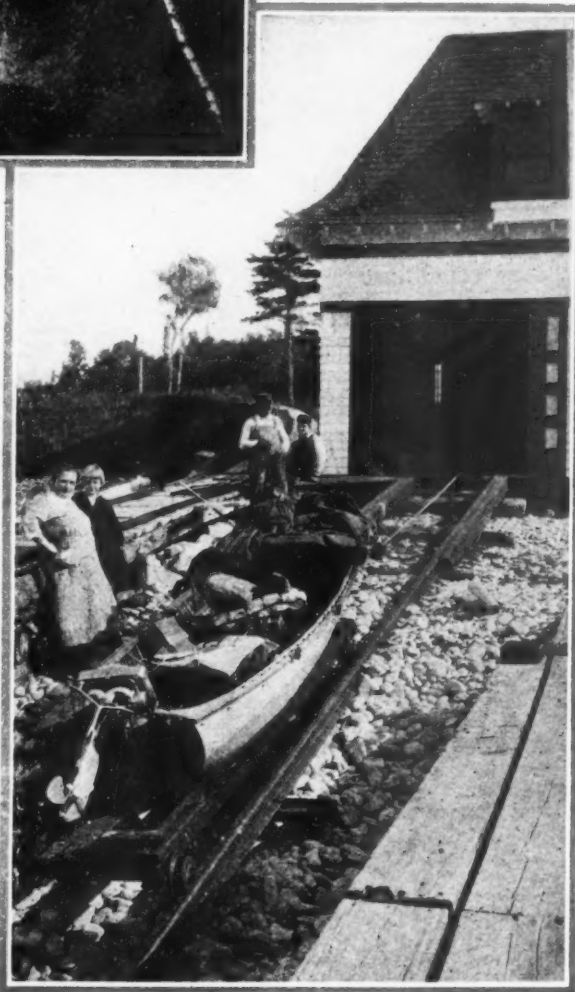
mouth of Green Bay my course converged to join that of the early voyageurs along by far the most important of the routes by which the interior of North America was discovered to the civilized world of two and three centuries ago.

It is a callous present-day traveler who is not sensible of his obligation to the better men who blazed the way



The tall tower at St. Martin's Light

for him in the days when the world was young. Yet it is rarely indeed that conditions are such as to make it possible adequately to visualize in the light of today the problems and difficulties of the path-finder of yesterday. When one stands, for instance, on the steps of the Wrigley Building or the Art Institute in Chicago and tells himself that La Salle and Joliet dragged their canoes through the swamps now replaced by steel and asphalt



and concrete, somehow the picture is hard to focus to sharpness in the lens of the imagination. Nor is it possible to stand on the observation platform at El Tovar and conjure up a proper mental picture of Powell battling with the rapids in the depths of the Grand Canyon of the Colorado, nor to frame with the car window of a passing train a true vision of Lewis and Clark trying to work their boats down through the whirlpools of The Dalles and The Cascades of the Columbia.

Cities rise where the path-finder starved and thirsted, farms are spread where he cut a path through trackless forests, factories cluster at the cataracts which swamped his boats; only at a few remote mountain passes, river





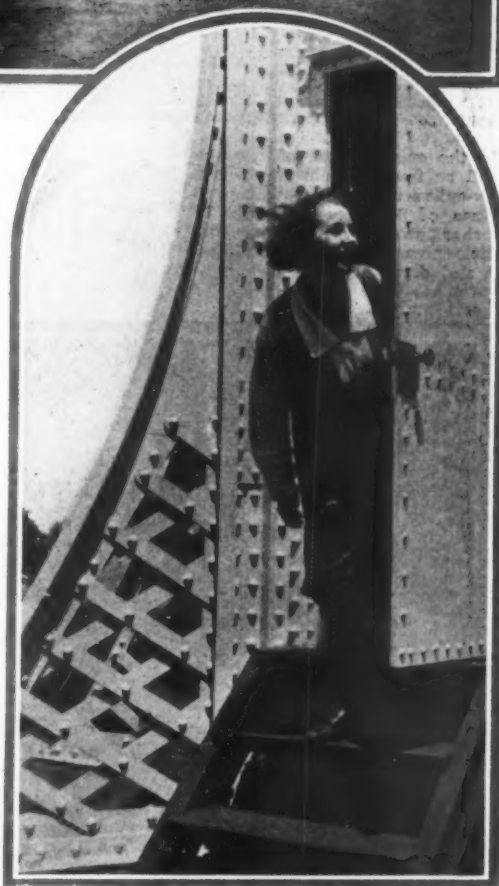
Some deserted old cabins on St. Martin's Island

rapids or stretches of barren coasts where obliterating civilization has not yet encroached may the explorer of today put to the acid test of parallel experience the achievement of the man who blazed the trail. It had been my fortunate experience to learn thus at first hand something of what the Grand Canyon had meant to Powell, the Columbia and the Yellowstone to Lewis and Clark, the Congo to Stanley, and the South Pacific to Captain Cook. That is to say, I had run those rivers or sailed those seas in craft very similar in size and type to those used by their first navigators. And now I was to be given an opportunity to learn in a similar way what the north coasts of Lakes Michigan and Huron meant to Nicolet, Marquette and Joliet, who had pushed their pioneering way along them in craft as light and open as my own. It was to this that I referred in writing that the lure of the Present in the stirring work in hand was not more potent than the glamorous enchantment of the Past.

A dog-eared volume of Wisconsin history, picked up on the hotel table in Ephraim, refreshed my mind as to the progress of early exploration of the Great Lakes. Champlain, the discoverer of Ontario and Huron, never pushed west of the latter lake. To two of his associates, Etienne Brule and Jean Nicolet, was reserved the honor of carrying exploration farther up the Great Lakes. Brule turned his face toward Superior, from where he returned with a great ingot of copper as proof of the mineral wealth of the region; Nicolet headed west and south across Lake Michigan, ultimately reaching the mouth of the Fox River at the head of The Grand (now Green) Bay. Here, garbed in a green robe of Chinese silk and holding a pistol in either hand, he held pow-wow with the Winnebagoes, who assured him that a few days of paddling by the rivers we now know as the Fox and the Wisconsin would take him to The Great Waters. Mistaking what was undoubtedly an allusion to the Mississippi as referring to the Pacific, Nicolet, on returning to Montreal, announced the discovery of the long-sought direct route to China.

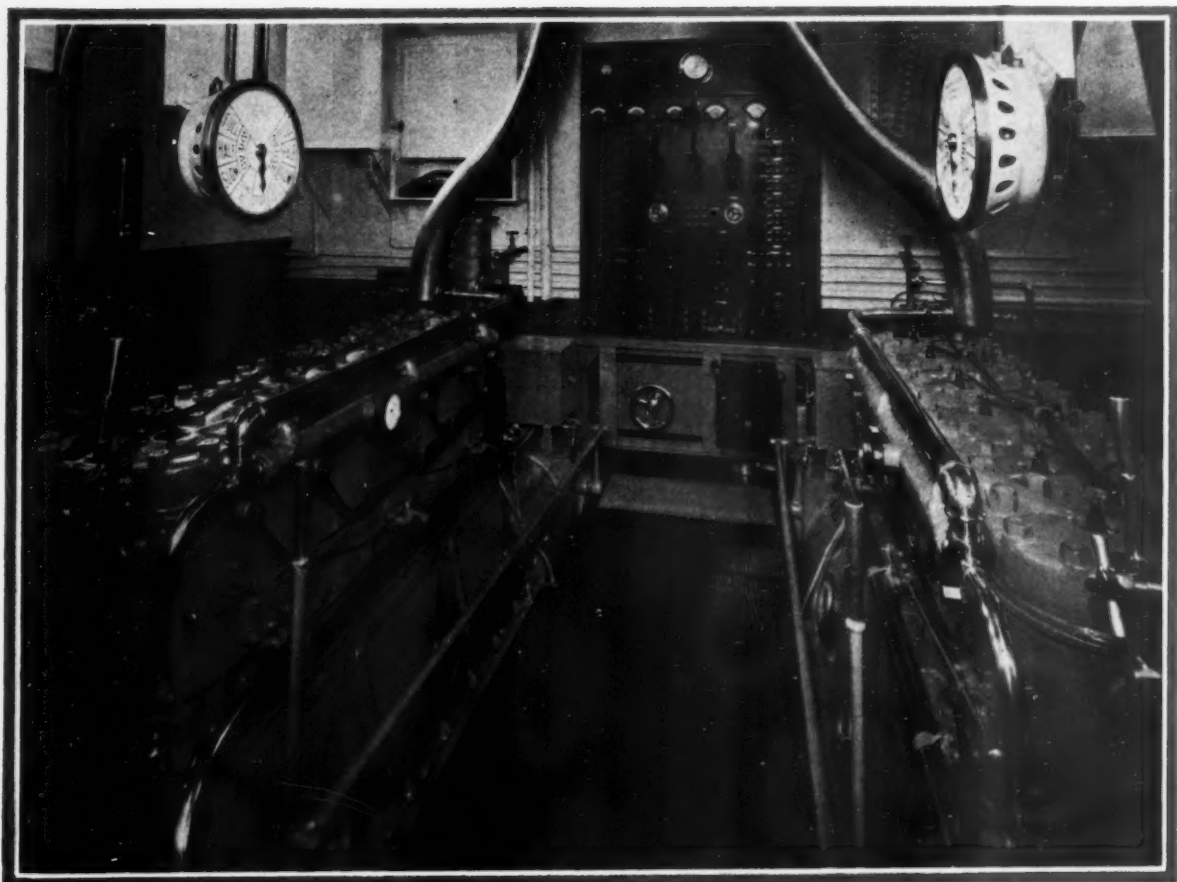
It was reserved for Joliet, the Canadian-born son of a French

(Continued on page 82)



The lighthouse keeper's daughter in her new mail order costume



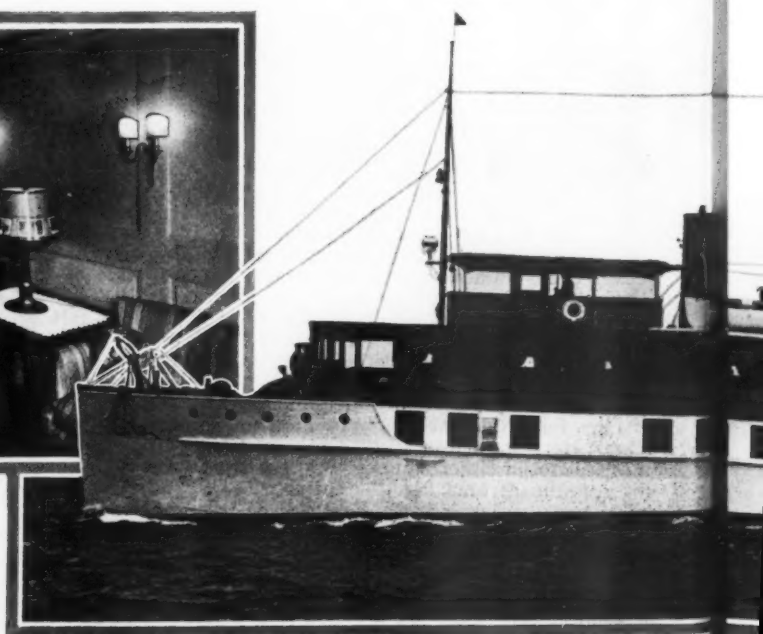


In the engine room of Nirvana will be found a pair of 125 h.p. six-cylinder Winton gasoline engines of 8 inches bore and 11 inches stroke. These develop their power at 450 revolutions, and drive Hyde propellers

# NIRVANA *the* Fin



The interior of the boat has been handsomely furnished by the expert decorators of the Wanamaker establishment. The beds, as will be seen in this stateroom, are hand-carved in exquisite patterns





# Finest Houseboat

The deck saloon will serve as a model of correct interior decorating. Note how the tones of the hangings, floor covering, and furniture all harmonize. There is just enough mahogany trim to add to the attractiveness

Nirvana, the 115-foot houseboat, just built for Rodman Wanamaker of New York, by the Geo. Lawley & Son Corp., of Neponset, Mass. The construction and finish throughout are of the highest possible standard

The hull of Nirvana is of steel plate, and the construction is most substantial. The engine room is supplied with the most modern mechanical devices, such as Winton generating equipment, Edison storage batteries, American M & F pumps

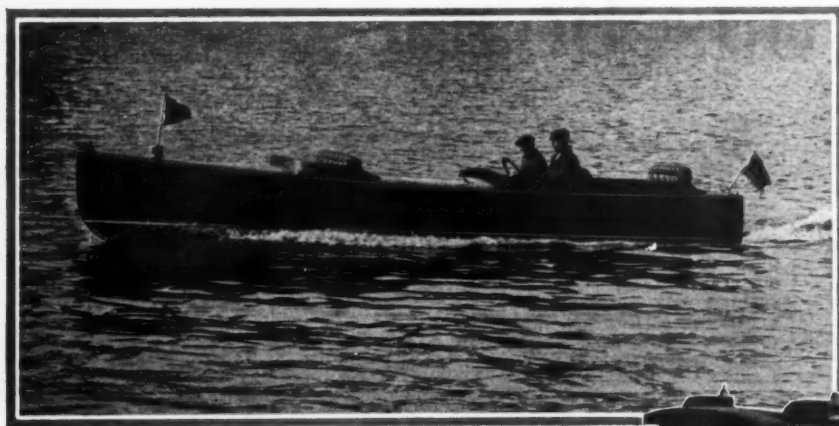


A pair of the new 26-foot standardized runabouts being built by Stephens Brothers of Stockton, Calif., in a friendly brush. These boats are equipped with four and six cylinder Scripps engines of the F series



# PEP *In Small Boats*

*The Prime Requisites of Speed and Power Demanded in All Modern Boats is Being Fully Supplied by Engine Builders*

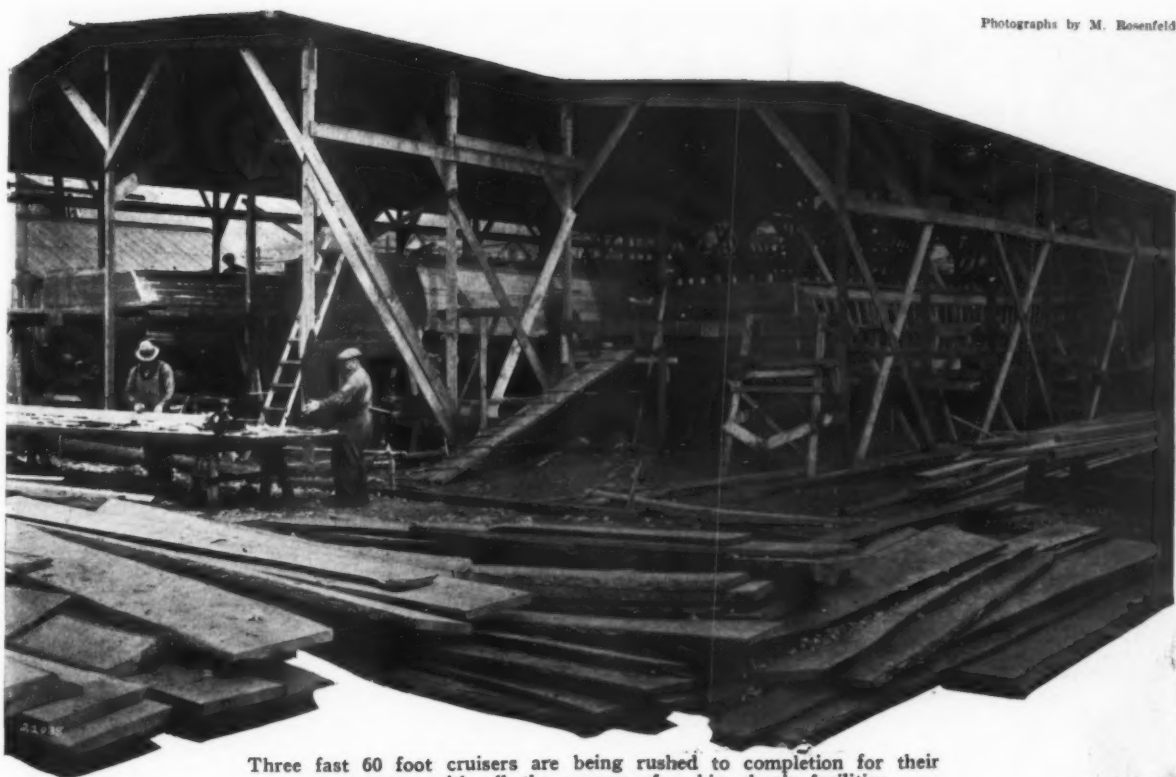


The sea skiff type cruiser has remarkable speed possibilities. The 32-foot boat built by Hubert S. Johnson of Bayhead, New Jersey, attains a speed of 21 miles with an E 6 Scripps engine. This boat was built for R. E. Manley of York, Pa.

The double cockpit type of runabout is increasingly popular. This one is the standardized Dragon model, built by the Welin, Davit and Boat Company of Long Island City, and these are also powered with Scripps engines







Three fast 60 foot cruisers are being rushed to completion for their new owners with all the energy of a big shop's facilities

# Rambling in a Boat Plant

*An Afternoon Spent Among the Ship Carpenters and Mechanics  
of a Big Boat Building Yard Near New York*

By ROSSITER HOLBROOK

THERE is an old saying in the railroad business that once a railroader, always a railroader. I think this same could be said of a real cruising yachtsman, for, although it has been many years since business has allowed me the pleasure of spending days and weeks on the water, yet every time I take a peek into even the smallest cabin of sail or powerboat, that old urge comes back with all its youth and vigor.

I can remember back in the years from 1899 to 1907 when, during the summer months of school and college, I would spend anywhere from two weeks to three months plodding back and forth from Hempstead and Cold Spring Harbor to New Haven, New London, Shelter Island, Newport, Martha's Vineyard and Vineyard Haven, and every minute of every hour of the day seemed full of joy and pleasure to me.



An unusual view of the extensive shops and buildings of the Consolidated Shipbuilding Corporation of Morris Heights. The plant occupies twelve acres, and the pleasure craft at the wharves are valued at over one million dollars



The testing room, where the engines are given a complete and thorough running test

Those were the old days of the big cup defenders, and I never will forget the excitement and pleasure of watching such boats as the Vigilant, Columbia, Defender, and Lawson's Folly, fighting it out off Point Jude.

My cousin and myself, with sometimes one or two others added to the crew, would spend practically the whole summer long in anything from an old 26-foot overall 11-foot beam fishing sloop to being part of the guest crew on the 57-foot yawl Myera, owned by the late Mr. Preston, who was probably one of the most enthusiastic yachtsmen that I have ever known.

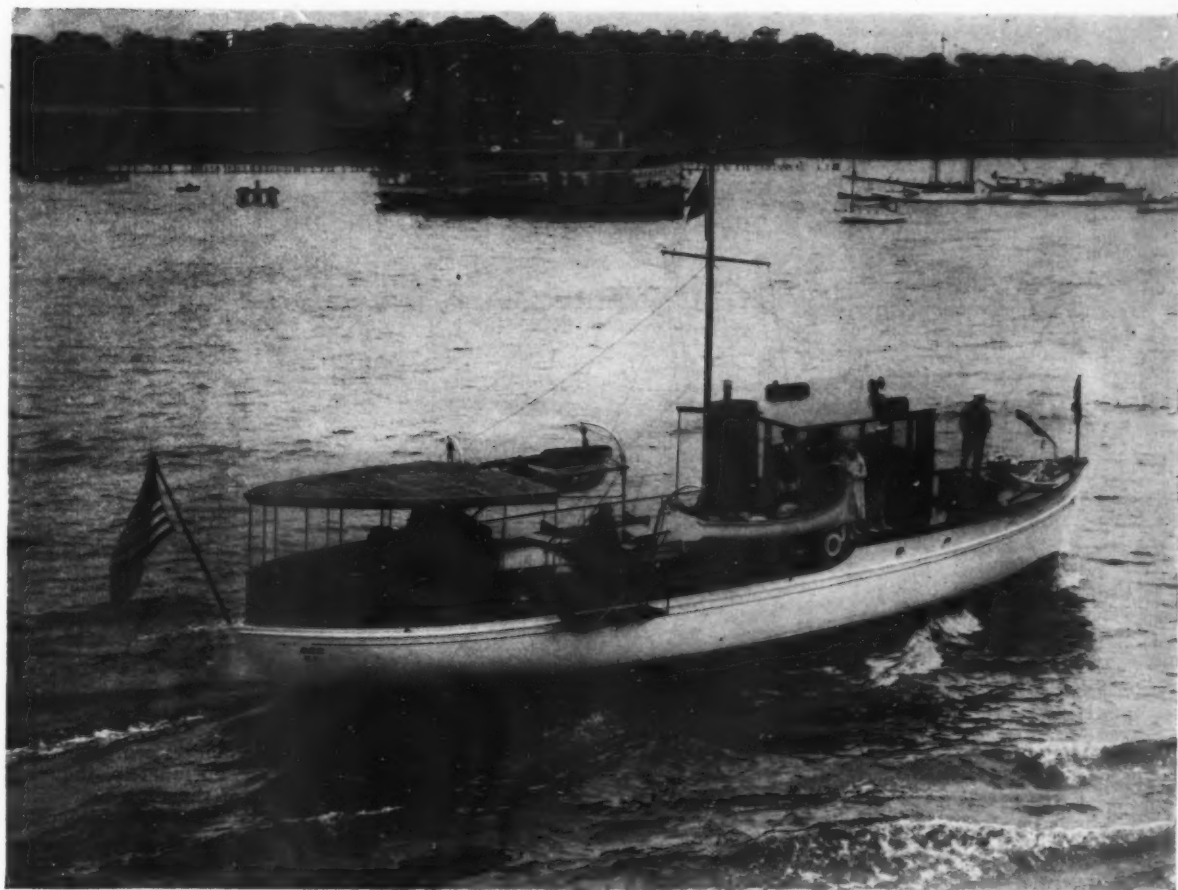
Many of our most enjoyable hours were spent wan-

dering through the different yacht and ship yards, looking over and discussing some of the many boats hauled out on the ways for repairs. I can remember when there were anywhere from ten to twenty-five yachts in yards long since gone in the discard at Cold Spring Harbor, and I can never resist the temptation, when passing even small fishermen's ways, from wandering around the boats that may be hauled out, looking them over and recalling those many happy summers.

For the past ten years I have been commuting back and forth on the New York Central Railroad, and each day a more and more irresistible (Continued on page 116b)



When haste is necessary to finish up a job quickly, as many men as possible are put to work on a job



A single wire aerial used on the motor yacht Bee, has proven effective for radio reception

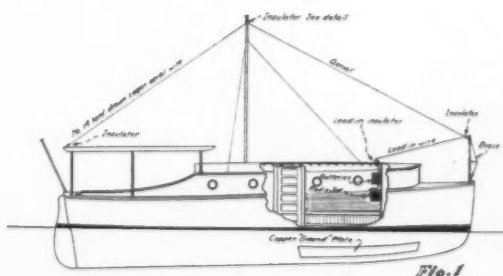
# RADIO *On the Boat*

## *Solving the Problems of the Boat Aerial and Ground System. Sensitive Receiving Sets Make Good on Boats*

By W. F. CROSBY

**T**HE use of a radio on motor boats is simply a matter of choosing the proper equipment and of adapting it to the conditions which are to be met, but in most cases these conditions are different, and what may work successfully in one installation may prove to be only mediocre when applied in some other case.

This article will deal with the general conditions to be encountered and will sum up the requirements which will be taken up considerably more in detail later on. As a general rule, a radio set will prove itself well worth while, and with the sensitive apparatus in use at the present time the old bug-bear of the long and high aerial is practically eliminated. Many of these multi-tube sets will work fairly well on aials but twenty feet in length and each foot added will increase the distance and volume proportionately.



General arrangement of aerial and ground systems for a small cruiser. The set is kept away from the engine to decrease interference

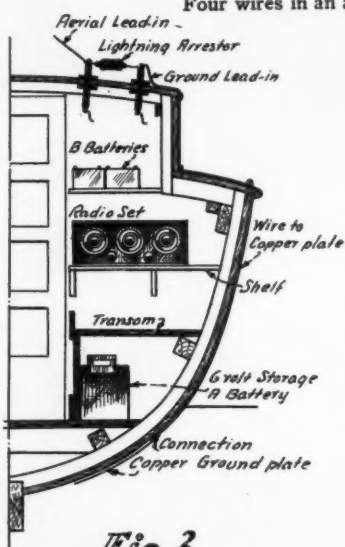
On the average cruiser of between thirty and forty feet in length it is quite possible to secure sufficient length of aerial to enable a good four or five-tube set to perform almost as well as it would ashore with the regular aerial. In no case, however, should results be compared, especially on distant stations, for in warmer weather the range of the transmitting equipment is considerably reduced, and of course even at best the radio set is working under a handicap.

Undoubtedly the subject of summer static will tend to influence motor boatmen against such an installation, but with last summer as a criterion it would appear that static as an interfering element is greatly overrated. Many evenings last summer were fully as good as those in the middle of winter, with reception practically on the same basis. Of course there are nights right in the middle of the winter when





Four wires in an aerial are hardly necessary, as a single one will do the work equally well



**Fig. 2**

Suggested arrangement of batteries and set to provide the most compact and desirable location

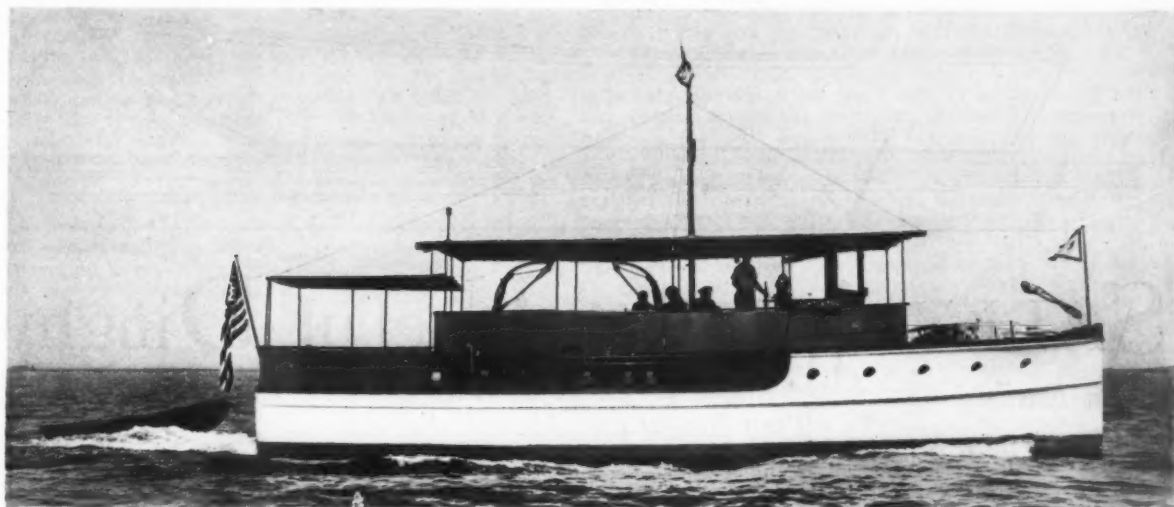
the static will be very bad, and in summertime, when a thunderstorm is in the offing, reception will be practically out of the question. Fortunately, though, static caused by such storms only takes up a small part of the time, and with a short and low aerial on board the boat the total effect will be further reduced. It is a well known fact that aials having these qualifications are considerably better for summer reception. It is, therefore, apparent that the boatman starts off right at the beginning with something in his favor.

As for the danger of lightning, there is no more danger of lightning striking your aerial than there is of it hitting your awning stanchions. In fact, a good aerial may be reckoned as a protection against this much dreaded element, for, when properly grounded through a lightning arrester, it will tend to slowly drain the electricity from the atmosphere in its vicinity, not permitting a heavy charge to be built up which might result in a bolt.

Along these lines it might be well to point out that in New York City not one single case of fire has been reported in which lightning coming in through a radio aerial is given as the cause. When we stop to consider the great array of wires on the housetops it may be assumed that the danger, if there is any at

Idle Time has a four-wire aerial arranged in the conventional way. The lead-in is at the forward end





Another single wire aerial as arranged on the houseboat Turtletoot

all, is extremely small. The National Board of Fire Underwriters, realizing that the danger is so slight, has recently revised its rulings, so that it is only necessary to have an approved lightning arrester in the circuit and the old and rather drastic rules have been eliminated. By applying these rules to your boat, and having a clause added to the insurance policy, you may feel perfectly at ease in regard to the matter.

As for the aerial installation itself this subject is pretty well illustrated in Figure 1. Here we have a boat of about thirty-eight feet in length in which a single wire antenna is strung from the jack-staff forward to the top of the mast and thence down to the stern end of the awning frame. A single wire is sufficient for such an installation and the addition of further wires may only complicate matters and are hardly likely to improve reception. Of course in an extremely short aerial two or three wires may help a little, but as a general rule it may be assumed that the length of wire in one direction is what counts and leading the wire back again will decidedly not double the effective length even though twice as much wire is used.

In marine installations the subject of insulation must

be given careful consideration. Insulators which are apt to absorb moisture should be avoided and some of the unglazed porcelain insulators will retain their effectiveness for only a short time. Corrugated glass insulators of from four to six inches in length will be excellent, as they are not only strong, but also absolutely impervious to moisture.

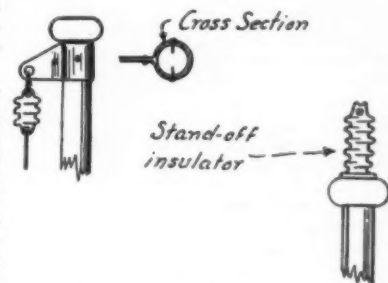
The radio antenna performs the function of picking up and conveying to the radio set the feeble impulses that come into contact with the wire, and as this current is constantly trying to take the shortest

path to the ground it is quite essential to preserve it by good insulation. Under normal conditions wood is a poor conductor of electricity, but where dampness is apt to be present this wood will become a remarkably good conductor, especially if the boat is used on salt water. From this it is apparent that the aerial, and, in fact, the entire wiring system, must be carefully insulated to prevent these feeble impulses from leaking off to the ground and consequently never reaching the set.

In the installation shown in Fig. 1 we find points where this leakage may occur at the jack-staff, the mast-head, at the awning frame, and at the point where the aerial is brought in through the deck. After the wire comes inside of the cabin it may be rubber insulated and led directly to the radio set.

There is a strong chance that at the mast-head a short section of the aerial may touch the mast itself, causing trouble which may be hard to locate, but, if at this point, the insulator is set off to one side, as shown in the detail drawing, this difficulty may be overcome.

Neat arrangement of a four wire aerial on Lady Anne. Reception would be as good with only a single wire

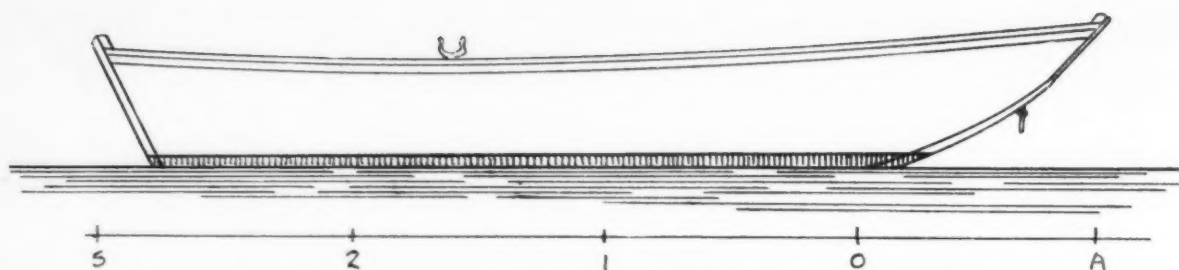


Arrangement of Insulators at Mast-head

Detailed view of masthead, showing suggested methods of insulating the aerial

A glazed porcelain stand-off insulator screwed directly to the mast-head cap will also prove effective. (Continued on page 66)





# SALLY-ANN, A Useful Dinghy

*An Easily Constructed Small Work Boat Which Will Carry A Big Load,  
Tow Easily and Handle Safely*

*Designed Exclusively for MoToR BoatinG*

By William Atkin

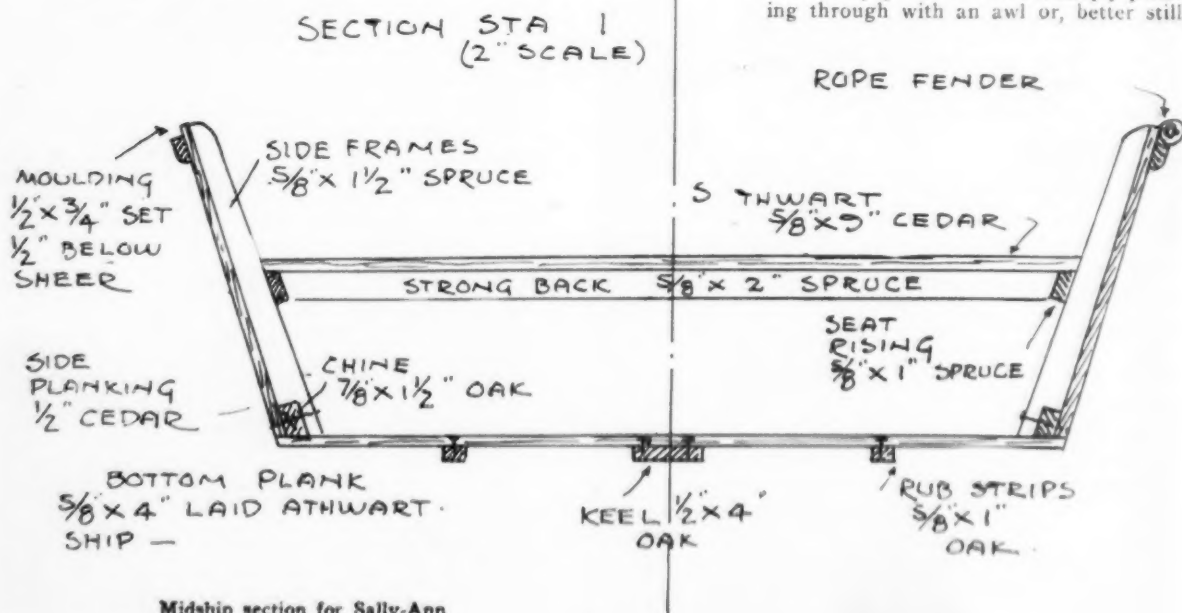
**J**UST a year ago, July, 1924, I designed the little pram tender Rinky-Dink for MoToR BoatinG, and then built her. Rinky-Dink, it will be remembered, was 7 feet in length, 3 feet 6 inches in breadth and 3 inches draft. I towed her around most of last summer and fall, and consider her good. Few small craft tow as well, and few are so light in weight; she is strong too, and repeated dragging up and down the beach has harmed her not at all. The dink will carry three men of average weight in smooth water and two in rough water. Little more can be expected of so tiny a craft. I have not been able to weigh Rinky-Dink; but am sure she will tip the scales at less than 75 lbs., this is very light considering the capacity of the craft. It may be interesting to know that the cost of the lumber, paint, varnish, hardware, oars, painter, and 10 lb. anchor was a few cents under \$21.00; not bad at all. The labor charge will depend upon where and how the boat is built. It should not be over \$40.00.

I have been asked by several how I should change my Rinky-Dink should I build another; the answer is given in the plans herewith of Sally-Ann. The changes are not great. Perhaps the most noticeable is the increased length, 7 feet 11 inches; and the single plank

on the sides. Then I have widened the bow both at the bottom and on deck, and run the bottom upward to a rather shallow bow piece. The result of these changes will be to simplify the construction, and to increase the carrying capacity of the boat with but little additional weight. The longer hull permits using a thwart across the middle, needed for strength, and one at either end. As I see it the little boat will be nearly perfect as now laid out and I am planning to build to the new plan so as to learn how close I am to the mark.

Sally-Ann should be built entirely of white cedar and spruce or oak. These are light woods, strong, and especially well adapted for the building of any kind of small boat. If it is difficult to obtain the cedar any of the following woods may be used in its place: red wood, Oregon fir, mahogany (use 3/8-inch in thickness), sap cypress, or white pine; and for choice about as in the order given. I believe it is possible to buy spruce almost anywhere.

Now if you decide to build one of these little punts begin the work by laying the lines down to full size, either on building paper or on the floor. The former is the better, though because it is then so easy to transfer the lines from the paper to the wood, simply pricking through with an awl or, better still,



Midship section for Sally-Ann

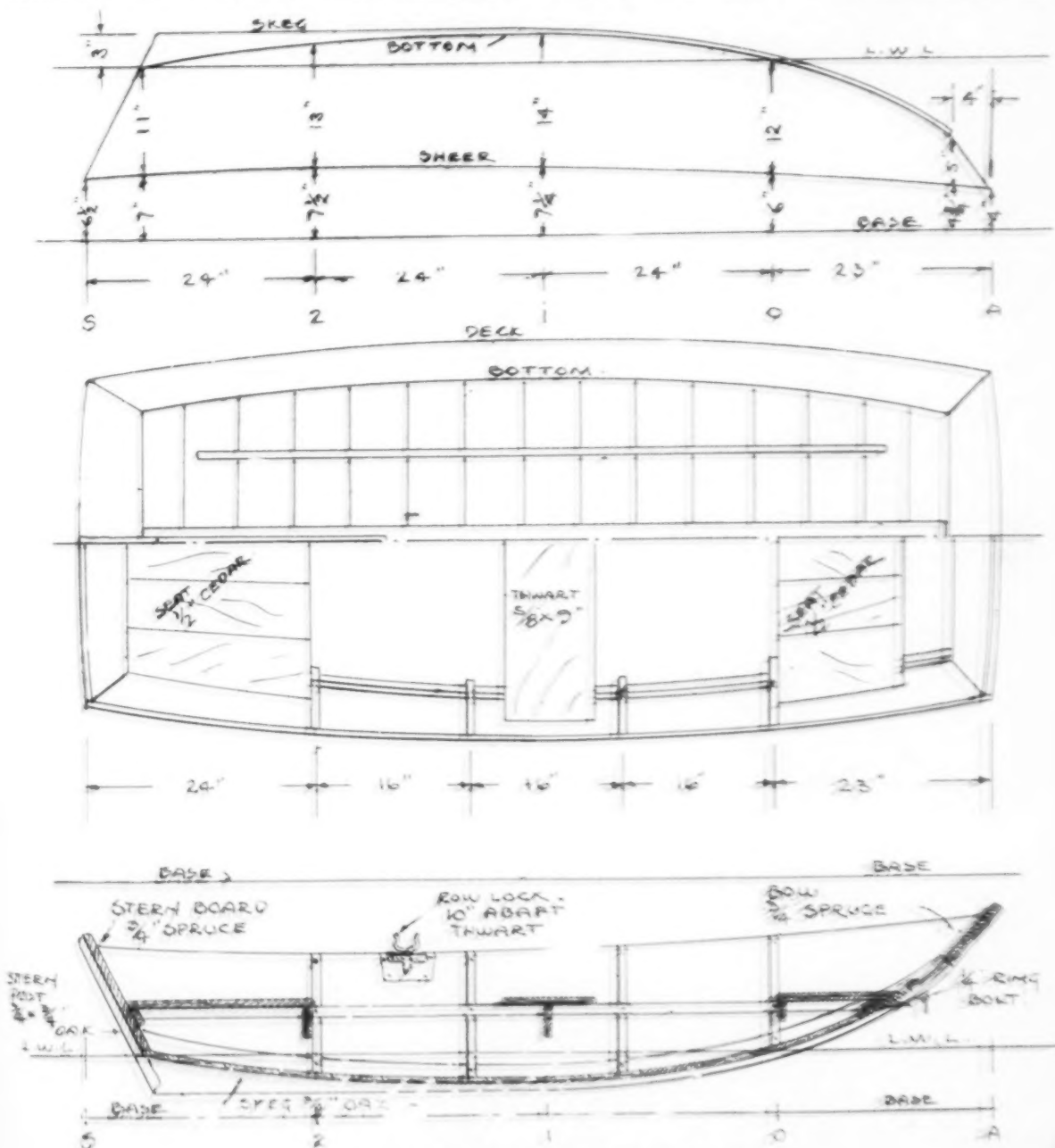


a dressmaker's wheel. It may seem unnecessary to go to the bother of laying down the lines to full size, but the time thus used will be well spent. Another thing, laying down is the surest way to find errors in the laying down dimensions and makes it possible to build the boat exactly like the plans intend. Notice, however, that the dimensions shown are to the outside of the planking, and that thus its thickness on the sides and bottom must be taken off the forms on stations 0, 1, 2, and the bow and stern.

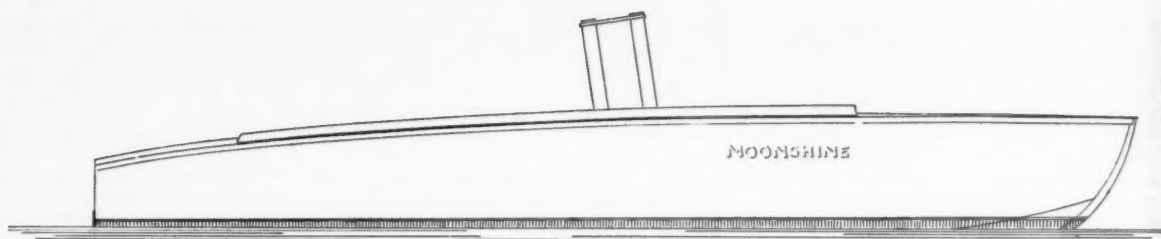
The forms should be made of  $\frac{3}{4}$  by 4-inch wide spruce and securely nailed at the chine corners, and where the athwartship member joins the sides. The position of the sheer, the water line and the center line should be marked very carefully, for these will be badly needed in setting up the forms. There is no way in which to guess these things and accuracy is essential. There will be three forms to be made: one at station 1, the middle of the boat, and the other two 24 inches forward and abaft this.

The side members of the forms must be cut with ample length to reach to the base line, after the manner shown at station 1; thus, when the forms are set up on a level floor they will stand at correct heights from the floor. It is very important for the forms to stand plumb and also square across the boat, and if they are not carefully set the boat will not be fair nor like the plans. Most all small boats are built bottom side up, and Sally-Ann is no exception to this practice. Unless the bracing that secures the forms to the floor or the rafters is well done the forms will shift, and the craft will live forever after quite lopsided and unsightly.

The stern board and the stem will be made of  $\frac{3}{4}$ -inch spruce, and since the widest part of either of these is 14 inches, each can be made of a single width. However, it may be impossible to find wide spruce that is clear, and in this case make the stern with two widths, bringing the seam below the bottom face of the after thwart, and fitting a batten behind it. (Continued on page 112a)



Lines, plan and section for the little punt, Sally-Ann



# MOONSHINE

## A Speedy Little Hydroplane

*Popularity of Small Size Speedsters in 1½ Liter Class Brings Forth An Easy to Build Design, Particularly Arranged for Amateur Construction*

*Designed Exclusively for MoToR BoatinG*

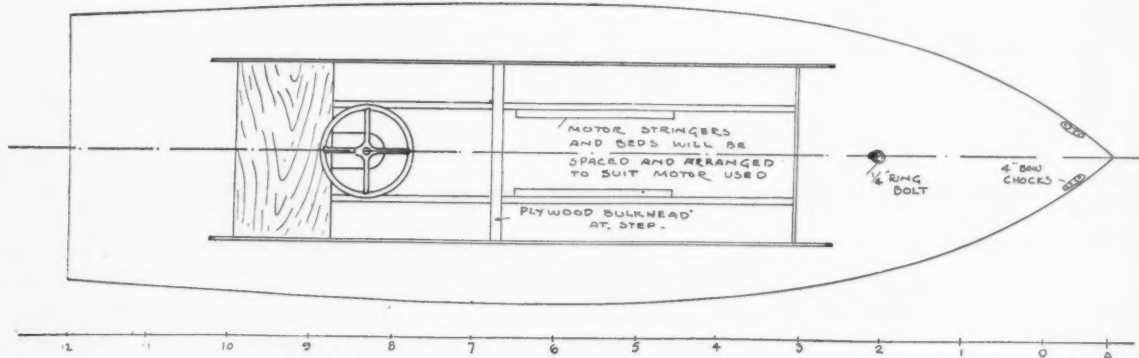
By William Atkin

**M**OOONSHINE was designed for a small motor, a light motor, but one that is good for a great many revolutions. Abroad, motor manufacturers have gone into the building and design of tiny little motors having a cylinder volume of 1½ liters, which is equivalent to 91½ cubic inches. And with even this small cylinder displacement the best of the European motors pull down as much as 60 h.p.; but it must be remembered that the turns count up to as high as 4,000 to the minute; and that is speed. With a motor of that power and weighing not over 225 pounds, our little Moonshine would be equal to a speed of nearly 35 miles in hour. As it is unlikely that so much power will be installed in the craft, let's look into the possibilities nearer home. There is the two-cylinder Pierce-Boutin, for instance. This comes to mind because it is cheap, light, and also because so many of its kind have been used in these diminutive racing craft; and another thing, one remembers these two-cyclers because they are such cursed things to crank; folks who are mechanically inclined can get a whale of a lot of power out of most of the small two-cycle motors by lightening the pistons and rods, by enlarging the inlet and exhaust ports, etc. And the four-cycle types offer even greater possibilities. I understand the little Universal motor will run up into the thousands of revolutions if it is doctored by some one who knows the kinks of the trade. There are scores of motors that might be used in Moonshine, and so long as the power plant does not weigh over, say, 450 pounds, she will have an even show with most boats of her size; but remember, a high-speed boat must be powered with a high-speed motor, and the lighter the motor is the better the outfit will perform.

Moonshine will be exactly 16 feet in over-all length; the water line is 15 feet; the breadth on deck, 4 feet 7 inches, and the draft of the hull 4 inches. Now the draft will depend upon the internal weights, and these must be distributed exactly as shown on the plans, for otherwise the craft will not trim properly and the speed will not be satisfactory. It seems to me that the total weight of the hull, tanks, fuel, and motor can be kept to a figure under 1,050 lbs., then with a crew of two weighing approximately 300 lbs. the thing will work out precisely as planned.

The hull is of very simple form, having straight sections both on sides and bottom. I have found long ago that this is a form which is superior to the concave bottom type, and it is not only stronger, lighter and better, but far easier to build. The keel, it will be seen, is 6 inches wide for the entire length of the boat, and projects below the planking at the rabbet to a depth of ⅝ inch. The purpose of this is to form what might be termed a reefing plane, and it is a very effective one, too. I have tried this out on several runabouts to excellent advantage. And it is perfectly sure that the heavy and broad keel give welcome strength to the entire hull. Notice also that the forward and after planes are quite parallel to each other. This is as it should be, and is important. The chines, however, are not parallel to the rabbet lines; in other words, the sections flatten out as the aft ends of the planes are reached.

In fast boats of any kind it is highly desirable to eliminate gear under water. The smaller the shaft, the strut, the rudder, the bilge bailers, and the propeller, the faster a given boat will be, and there is no mistake about it. Projections under water are hold-backs. In making the



Profile and deck plan for the 1½ liter class hydroplane Moonshine

h;  
7  
aft  
ust  
er-  
will  
ht  
are  
ap-  
as  
  
ec-  
go  
ave  
and  
en,  
and  
of  
be  
ne,  
to  
the  
tire  
are  
and  
to  
out  
  
lim-  
rut,  
ster  
t it.  
the





## BUILD A BOAT Series



# MOONS A 1½ Lit Hydrop



SECTION  
STA. 6

CORNING SPRING

CLAMP 1/2" X 1 1/2" X PINE

STRINGERS 7/8 SPRUCE

SEDS 1/2" OAK

APRON 3/4" X 8" OAK

KEEL 1 1/2" X 4" W OAK



Scale 1/2" = 1'

STERN  
SAME CONSTRUCTION  
AS SIDES

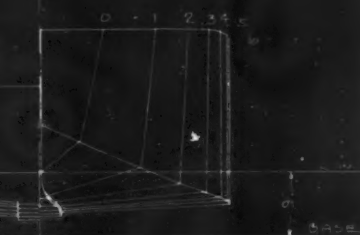
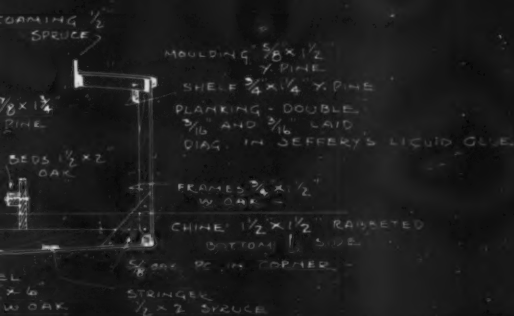


LINES AT ST

E



# ONSHINE Liter Class Proplane



Designed  
by  
William Athin

## DIMENSIONS

LOA 16' 0"  
BREADTH 4' 7"  
DISP 1050\*  
STATIONS SPACED 15"  
BASE 5" BELOW L.W.L.  
STEP 3' 6" FORD STA 7  
DIMENSIONS TO OUTSIDE  
PLANKING PLANK  $\frac{1}{4}$ " THICK  
KEEL SIDED 6" -  
STEM 2" -

**MOOR  
BOATING**

119 West 40th St.,  
New York



strut do not have a plate under the boat. Simply have plate on the stern, as shown. Keep the hub of the strut very small and permit the shaft to turn in the bronze. No bushing needed, even if bronze shaft is used. With a  $\frac{3}{8}$ -inch steel shaft, the outside diameter of the strut hub need not be over 13/16 inches in diameter. The length of the hub should be 4½ inches, the thickness of the leg of the strut  $\frac{3}{8}$  inch, and the length 3 inches. Several other dimensions are given on the plans and are quite sufficient unto themselves. At any rate, if you have an urge to change these, make the change for something smaller and lighter.

I should make the rudder of a piece of 1-inch diameter steel shafting, having the lower end slotted for a  $\frac{1}{8}$ -inch steel blade. The latter should be 6 inches wide and 9 inches deep. This is area enough. If the rudder post is inclined as shown, the craft will steer beautifully under all conditions. There should be a substantial block across the keel upon which to mount the stuffing box for the rudder post, and if a very high-powered motor is to be installed I should run a stout bearing piece between the tops of the motor stringers so as to take the side thrust of the rudder post. A tiller with arm about 8 inches long will handle the rudder. Notice the vertical steering post and wheel. This will be made of any good rim wheel, using a piece of  $\frac{1}{2}$ -inch brass pipe to the post, a 6-inch diameter locust drum 2½ inches wide to the steering ropes, and floor flanges for the support at the seat and flooring. There is not a thing better than this for the purpose. The drum and wheel should be fastened to the pipe with two 5/16 diameter pins. Galvanized iron deck blocks for  $\frac{1}{4}$ -inch rope; wire rope will be used for the leads for the steering lines.

Turning to the construction of the craft, we find the keel will be made of 1 by 6-inch white oak, and that it is backed with a  $\frac{5}{8}$  by 8-inch oak apron piece, the two to be well fastened with brass screws. An inch rabbet is thus formed for the reception of the bottom planking. The bottom corners of the keel should be left square, simply taking off the corners with fine sandpaper. At the step the keel and apron will be mortised into the wood and fastened with three  $\frac{1}{4}$ -inch brass bolts. In addition, there will be a metal knee fitted, as shown. In these joints, and in all the joints, use a coat of Jeffery's marine glue, for there is bound to be more or less wringing in a boat of this kind, and the glue will do wonders in keeping the water out.

The stem will be made of spruce or hackmatack. If of the latter, it can be in one piece; but if spruce is used, a scarf will be necessary, for otherwise the ends will carry too much cross grain. The stem will be sided 2 inches and moulded about 3 at the middle; 2½ at the head and 3 inches where it joins the keel. And notice that the foot of the stem does not form a fair line. There is a distinct angle at the forefoot. The keel and stem will be fastened with three  $\frac{1}{4}$ -inch brass bolts, as shown.

The stern board will be built up, having a frame of  $\frac{1}{2}$  by 2-inch spruce or oak, and covered with diagonally laid 3/16-inch cedar planking. There must be a vertical center member  $\frac{1}{2}$  by 6 inches wide, into which to bolt

the strut. The stern will be fastened to the keel with a  $\frac{1}{8}$  by 3-inch bent brass knee.

The chine pieces will be made of 1½ by 1½-inch oak or yellow pine and rabbeted for the reception of both the bottom and side planking. These will be through-bolted to the corner pieces of the frames. The forward ends of the chines will mortise into the stem. They will also mortise into the step and the stern. These cannot be too well fastened.

The side frames will be made of  $\frac{3}{4}$  by 1½-inch oak set on 15-inch centers—twelve in all. The bottom frames will be the same thickness, but moulded as shown on the plans. At the chine corners the side and bottom frames will be joined with a  $\frac{5}{8}$ -inch cornerpiece, fastened with brass stove bolts, two to each frame.

The step log will be made of yellow pine or clear spruce 3 inches thick and shaped in other respects like the plans. The rabbet for the step should be cut and in no case should this part be built up.

The motor stringers will run for practically the full length of the boat and will be made of  $\frac{3}{4}$ -inch spruce, so spaced as to take whatever motor is to be installed. The flywheel will, of course, have to swing between the stringers, and therefore hanger beds made of about 1½ by 2-inch oak will be bolted inside the stringers to bear the motor. The stringers should be through-bolted to the bottom frames before the planking is applied, using  $\frac{1}{4}$ -inch galvanized rod with nuts each end for fastenings. Notice that several spacers are shown between the stringers, these being needed to prevent rocking and swaying.

A  $\frac{1}{2}$  by 2-inch spruce batten or stringer must be run through the middle of the bilge to prevent the bottom from panting. This will be fastened with brass screws. There is a clamp under the deck made of  $\frac{3}{4}$  by 1¾-inch yellow pine or clear spruce and a shelf under the deck beams made of  $\frac{3}{4}$  by 1½-inch spruce. All these must be in single lengths, and are to be fastened with brass or galvanized iron screws.

The planking will be laid double, each skin being 3/16-inch thick. The inner layer will run diagonally from the keel and chine, and the outer in a fore and aft direction. I should be disposed to lay this just as the stuff comes without shaping or beveling. The planks should be 3 inches wide and square edged. Begin the diagonal planking at the step and work towards the ends, and begin laying the fore and after layer at the keel on the bottom; and from the sheer on the sides. It will be quite all right if the planks run out into jib ends at the chine rabbet. The inner layer will be fastened here and there with small galvanized iron brads and screws where necessary. As the outer skin is laid, the surfaces should be well coated with liquid glue. The planking will be fastened to the frames with 1-inch brass screws, having the heads let in flush with the surface. But between the frames the two skins must be fastened with  $\frac{5}{8}$ -inch copper tacks; the points of the latter are simply clinched over and driven up tight. Along the chine, the bilge stringer and the clamp screws should be used for fastenings. Now if the planking was evenly milled before being applied to the boat, little time will be required for smoothing it off. Number 1 sandpaper (Continued on page 132)

STATION	A	O	1	2	3	4	5	6	STEP	7	8	9	10	11	12
HALF BREADTHS															
SHEER	0-0¼	0-9	1-4¾	1-5½	2-0½	2-2¼	2-3½	2-3½		2-3¾	2-3	2-2½	2-1¾	2-1	2-0¼
CHINE		0-3½	1-2½	1-8¾	2-0	"	"	"		"	"	"	"	"	"
HEIGHTS															
SHEER TO L.W.L.	1-8¾				1-8¾	1-8½	1-8¼	1-7¾		1-6¾	1-6	1-4¾	1-3½	1-2	0-11¼
CHINE TO BASE		1-2	0-10¼	0-7¾	0-6¼	STRAIGHT	0-4	0-7	STRAIGHT						0-4
RABBIT TO BASE			0-5¾	STRAIGHT				0-3	0-5¼	STRAIGHT					0-3
¢. SHAFT TO BASE							1-0¾								0-4¾ (BELOW)
KEEL TO BASE			0-5	STRAIGHT				0-2¾	0-4¾	STRAIGHT					0-2¾
¢. DR. CROWN TO SHEER			0-0½	0-0½								0-1	0-1	0-1¼	0-1¼

Offset table, giving all heights and half breadth dimensions for the hydroplane Moonshine



# SMALL MOTOR BOATS

## *Their Care, Construction and Equipment*

A Monthly Prize Contest Conducted by Motor Boatmen

*Questions Submitted for the September Prize Contest*

1. Explain the care and adjustment of ignition timing apparatus, breaker points, distributor, etc.

(Submitted by W. B. M., Newburgh, N. Y.)

2. Describe and illustrate how faulty water circulation through the motor's waterjackets can be remedied, thus relieving overheating troubles.

(Submitted by V. L. S., Wilmington, Del.)

## Cutting the Rabbet for Stem and Keel

*The Amateur Builder Can Make a Satisfactory Job of a Difficult Operation Without the Use of Elaborate Equipment or Machinery*

*Answers to the Following Question Published in the May Issue*

"Explain and illustrate how, using only the equipment found in the average home shop, to cut the rabbets for stem and keel in the most efficient method."

### *Cutting the Rabbet*

(The Prize-Winning Answer)

THE rabbet is the notch in the stem into which the ends of the planking fit. It begins at the top of the stem and extends downward not quite parallel with the front edge, and sweeps a curve to the keel, where it runs parallel, or nearly so, ending at the stern.

To cut the rabbet so true that all the planks will fit perfectly is a nice job for an experienced boat-builder, and the novice must work with the utmost care and exactness. However, don't think that because you have never cut a rabbet, the work is beyond your ability. If you can handle the common wood-working tools you can cut the rabbet.

We will take the cutting of the rabbet in the keel first, as that is the simplest and most easily explained, and an understanding of this part of the work will simplify the more difficult operation of cutting the rabbet in the stem. Since most amateurs are not familiar with the method of laying down a boat, as the process of drawing out her lines full size on the floor is called, we will work by what the vocational training teacher would call the cut-and-try method.

With the stem and keel assembled and set up and the moulds in place, the proper bevel for the rabbet can be easily determined. From the planking material or any soft wood the same thickness, cut a piece about a foot long and in width half the thickness of the planking. By using the thin piece for a templet there will be no danger of it being used other than in the proper position. The templet should be slightly beveled toward the side

next the frames, so that the rabbet will have an out-gauge. The out-gauge causes the planking to wedge tighter as the plank is drawn up in the rabbet and gives a good calking seam. By holding the templet against each mould and chiseling the keel until it fits the templet you will get a series of spots to guide to. Then by springing a batten fair between these spots and marking along the edge you get the finish line of the rabbet.

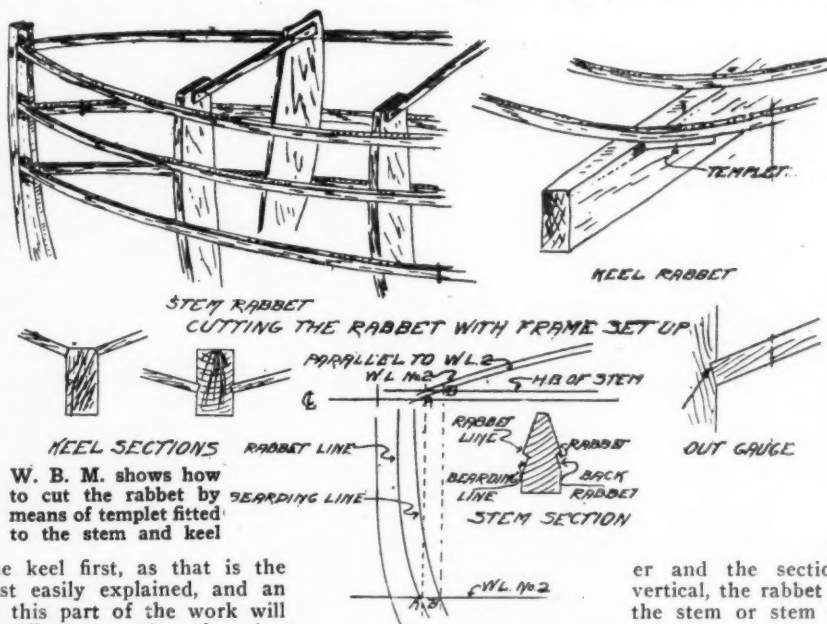
Draw a similar line on the upper edge of the keel and cut away the wood to these lines, using a chisel or draw knife and smooth up with a plane. Should the keel extend up into the boat, the method of laying out would be the same, but you would have to use a chisel or rabbet plane to do all the cutting.

As you approach the bow where the boat becomes sharp-

er and the sections stand more vertical, the rabbet changes until at the stem or stem knee the rabbet becomes a notch with two faces.

The edge against which the planks butt is called the rabbet and the other edge against which the flat of the plank comes is the back rabbet.

On all stems the templet must be applied horizontally but, instead of the short templet a batten extending aft over two or three moulds, so that it takes a fair curve, is used. In this manner the back rabbet will receive the exact bevel necessary to fit perfectly against the planks when they are bent around in place. Chisel out several spots along the stem, having them closer at the bottom, and then fair on the rabbet line and the bearding line, and chisel out to these lines. It is safer for the novice to cut the rabbet a little shy of the full depth, rather

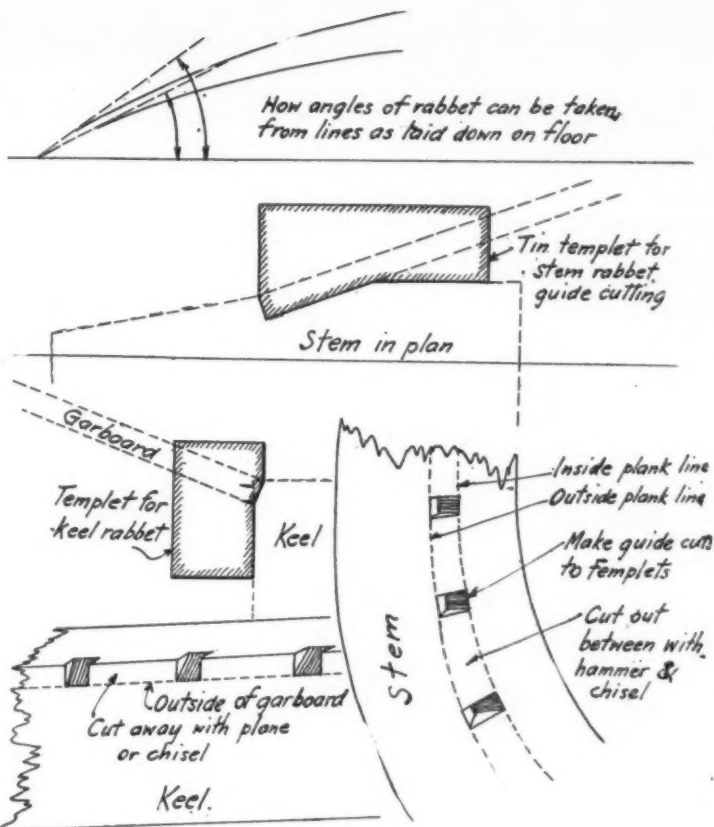


than cut it too deep, for you can easily take off a shaving or two. Fitting a shim under a plank to make it come flush with the stem is decidedly not good practice, and in the right place will cause a leak, hard to locate and harder to make tight.

Cutting the rabbet after the frame is set up is an unsatisfactory job, especially in light work. On a heavy stem, well braced, it is not so bad. If you have the boat laid down on the floor, the laying out and cutting of the rabbet is much easier, and the result will be equally as good in amateur hands, if not better. Cut out the stem and rivet it to the knee or deadwood. On the floor you have waterlines drawn, say, for example, every six inches apart. Lay the stem on the floor and mark these lines across it.

These waterlines show the exact bevel at the stem, at each of the several levels. By drawing on the floor a line parallel to the center line and a distance equal to half the thickness of the stem from it, the line will cross each waterline. Beginning at the outer line representing the deck, measure the distance from the front edge or face of the stem to the point where the lines representing the half breadth of the stem and the waterline intersect and you have one spot for the rabbet line. Transfer this distance to the stem and repeat the operation at each waterline. A batten sprung fair through these spots will give the rabbet line.

To get the bearding line, which is the line of the back rabbet, the process is much the same, except that the thickness of the planking must be allowed. Draw lines parallel to the waterlines the thickness of the planking inside of them. The point where the line parallel to the waterline intersects the half breadth of the stem, gives a spot for the bearding line. A line faired through spots obtained in the same manner at each waterline, completes the layout. You now have two lines from which to chisel out the rabbet, into which a piece of the proposed planking will fit and come flush with the side of the stem at the forward edge.



H. H. P. also recommends templets and cuts notches into the stem, the material being trimmed away from these later

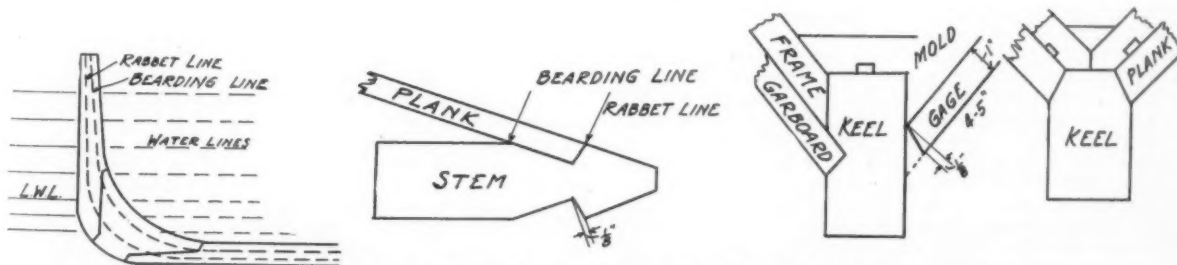
across the grain, which is the easiest way, without slivering or following the grain. W. B. M., Newburgh, N. Y.

## Rabbets in Stem and Keel

THE actual cutting of stem and keel rabbets depends solely upon the skill of the builder, providing always that he is equipped with first-class chisels, spokeshave and plane, properly sharpened and kept so. Nothing can be accomplished with dull tools, and it is a waste of time to try and carry on with them. About the best method of going about the work, for the inexperienced boat builder, is first to cut a series of narrow slots along the rabbet lines, at the proper angle of bevel as determined by trial with tin templets made from a study of the full-scale lines as laid down on the floor, as should always be done before starting to build the hull. After these are cut, the wood in between is carefully cut away and faired up with the angles already cut in the guide slots, and the result should be a fairly accurate set of rabbets.

The angles at which the planks meet the stem and at which the garboard edge meets the keel can be determined from the full-scale lines, taking

(Continued on page 62)



J. C. H. shows the method of cutting the material to permit the planks to fit exactly

# Auxiliary Service from the Outboard Engine

*Adapting the Portable Engines to Supplementary Service of Various Kinds About the Boat. Useful for Pumping and Generating Electricity*

*Answers to the Following Question Published in the May Issue*

"Describe an inboard use for the outboard dink motor on a cruiser, such as pumping or charging battery; installation to require as few changes and adjustments as possible."

## Outboard Engine for Pumping or Generator Driving

(The Prize-Winning Answer)

THERE are many cruisers not quite large enough to justify the installing of a separate lighting plant, but which require more battery output than can be provided by charging from the large engine while under way only. This is especially the case where radio batteries are carried on board and where there is considerable lying in port in the evening with the lights going. Such a boat often has a dink propelled by an outboard motor and it should be possible to rig up this engine on board the larger boat and use it for driving a small generator as an auxiliary to the main engine generator. While the outboarder cannot be used for charging and also driving the dink, if capable of quick disconnection from the charging plant it should be easily possible to apply it without inconvenience to both purposes. The main difficulty would be in finding a place to install it on board; it would be best to clamp it to a timber bolted under the bridge deck, somewhere near the main engine, but proper ventilation must be provided to carry away the exhaust gases. At times when no party was on board the engine could be clamped on deck; also, an arrangement could be made to carry it ashore when on a cruise and light up the camp. A flexible tube could be installed to fit over the exhaust outlet and carry the gases outboard, but do not have too many connections that require bolting on and aligning.

A substantial support timber having been provided, next means must be found for driving the generator and supplying cooling water. The best drive is by belt, as this is quickly disconnected; a friction drive might work if the generator is adapted to it; usually only small generators are so fitted. If one can be found that will stand a vertical drive, well and good, for a straight belt can be had; otherwise, a right angle drive from the flywheel must be used. Such a drive requires care in installing and aligning and the boatman should look up the rules before trying to arrange it. Allow plenty of room between flywheel and generator pulley. The propeller could possibly be removed and a pulley substituted, but ordinarily this would mean too many complications. Or, a pulley could

be installed on separate shaft and bearings and driven by a fork, as shown, for the pump drive, if no pump were used. Such a drive would require no disconnecting when removing outboarder.

As the circulating pump arrangement differs in about every make of outboard, suggestions only can be made regarding this. If possible, make a direct connection from below waterline to the outboard pump and carry jacket overflow overboard by means of a funnel and pipe or hose. If the propeller can be set neutral, the whole might be set into a well connected with the sea, but this would entail complications. Should there be no possibility of using the outboard's own circulator, tap into

its water intake line somewhere and connect by tubing or hose to a small gear or rotary pump bolted to the hull timbers and driven by the outboard propeller through a fork coupling, the fork rods being covered by heavy lengths of hose to prevent injury to blades. Such a drive requires no disconnecting, except for the intake hose. The bypass opening must be plugged or shut by a small valve when removing; also have a sea-cock on the

pump intake. It would be best not to use the circulating pump for bilge pumping, but for such work a larger gear pump could be driven from the propeller, as above, and the small circulating one placed behind it and driven through a coupling.

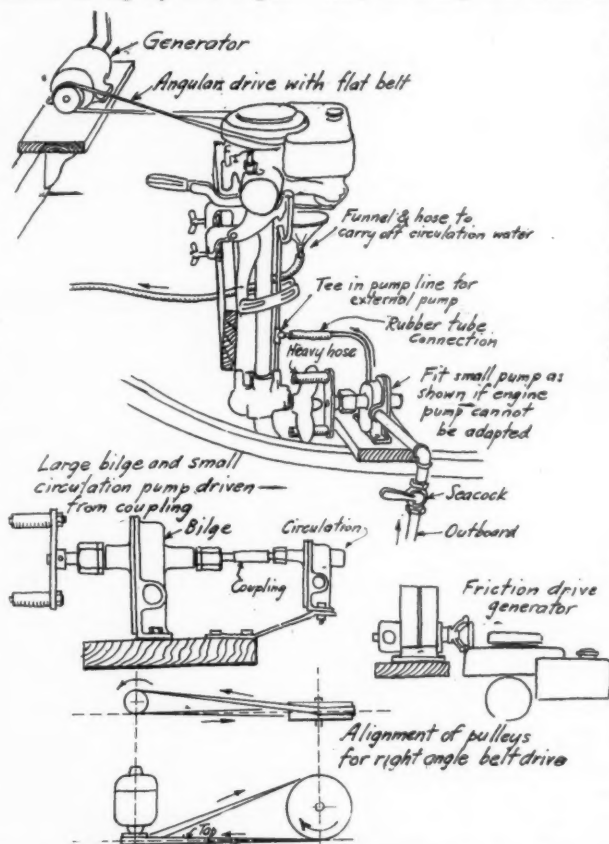
H. H. P.,  
Los Gatos, Calif.

## Inboard Use for the Outboard

THE outboard motor of today is a very efficient piece of machinery and a most useful accessory to the cruiser. It will drive the tender for hours on a

gallon of fuel and in a pinch can be made to bring in a large boat. This is not all. By arranging a good, solid bracket and providing connections for the water inlet and outlet and the exhaust, it can be used to drive a pump for pumping out the bilge, washing decks, or even putting out a fire. Driving a generator for charging the storage battery or supplying lights in excess of the battery capacity is within the range of its usefulness inboard. Indirectly, it will cook a meal or raise the anchor by supplying the necessary current to operate the device.

For inboard use it would seem practical to locate the motor so that the pump is below the waterline in order to assure a free flow of water to the pump at all times.



H. H. P. has arranged several ingenious hook-ups to take the power from the outboard engine and apply it to other purposes



The bracket should be set on a slant the same as the stern of the tender, so that it will not be necessary to adjust the angle in making either change. This bracket must be firmly fastened, and the propeller shaft housing held by a clamp to prevent excessive vibrations or strain when using a belt.

A little ingenuity will be required in arranging the water connections, as all outboards are not built alike and no definite instructions can be given that will apply to all. The circulating pump is generally located at the bottom of the propeller shaft housing and no provision is made for water connections. Do not solder on a connection, except as a last resort, and then make it several sizes larger than the original size. It may be possible to tap out the opening for a short pipe nipple over which a hose is slipped and connected to an outboard water inlet. Usually, there is a short outlet pipe which offers no difficulties in connecting the overflow. The exhaust outlet from the muffler can be arranged with a screw or clamp connection for flexible metal tubing which is led outside through any convenient opening. The overflow water could be turned into the exhaust pipe, or a larger pipe located so that the overflow empties into it and flows overboard by gravity.

The method of taking off the power from the outboard motor will depend upon the amount of power required. Where the load is light, as with a smaller generator used for charging the battery, a friction drive will be satisfactory. The friction may be either bevel or straight, but a friction governor should be used to limit the speed of the machine. In some cases, it should be possible to arrange the friction to drive from the under side of the flywheel rim or from the face of the wheel. With this arrangement, it is only necessary to drop the outboard onto its bracket and start up. In some models the flywheel is grooved for a rope starter, which groove may be used to take off the power by using a round belt in the groove. There are generators made to run with the shaft in a vertical position, otherwise the belt should be run with a quarter turn so that the generator will set level. A gear pump is equally as efficient in either position. Where there is space enough between the flywheel and the fuel tank a flat belt can be used on the face of the flywheel and the shafts may be parallel or at 90 degrees. To run a flat belt on a quarter turn without flanged pulleys, requires that the pulleys be very nicely located and aligned. In any event, there will be less strain on the machinery and

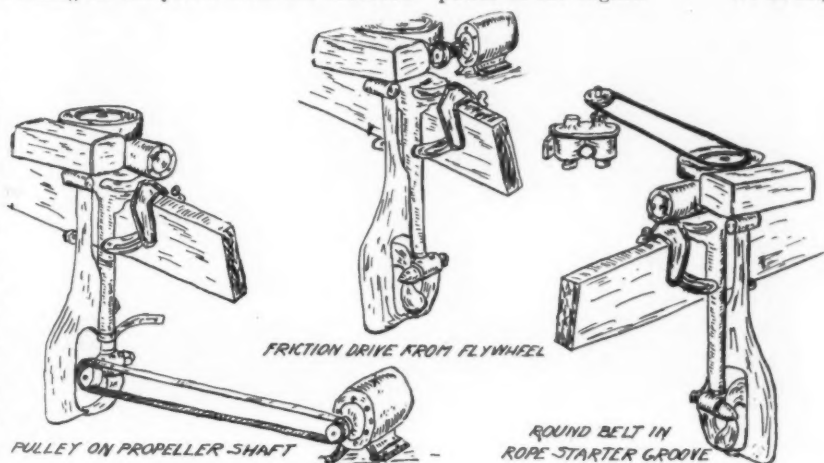
less slipping of the belt when the pulleys are a good distance apart. If the pulleys must be close together, use an idler.

Where the power requirements are greater than would seem advisable for a friction or round belt drive, the propeller can be removed and a pulley substituted. From this pulley the full power of the motor can be taken. At least one outboard manufacturer builds an outfit furnished with the pulley to replace the propeller. They also make an outfit with the outboard motor direct connected to a centrifugal pump, which uses the full power of the engine and will deliver 2,400 gallons of water per hour against a 25-foot head.

Except when using the pulley in place of the propeller, guard the propeller and let it spin. By locating the outboard motor so that the propeller spins below the floor, the propeller can be used for a ventilating fan to ventilate the bilge.

The changes in the outboard motor to adapt it to inboard use are few and easily made. In some cases, no changes at all will be necessary, arranging for the circulating water and the exhaust being all that is required. With a pulley in place of the propeller, the engine is available for driving anything requiring up to the full power of the engine.

W. B. M., Newburgh, N. Y.



W. B. M. drives pumps and generators with the outboard engine in several different ways

## Make the Outboard Work

THE advantage of the small power unit as furnished in the typical outboard engine makes it adaptable to many useful purposes on board the small boat. Due to its portability, it can be easily shifted from point to point, and its power applied.

but perhaps the most efficient and economical way of using its power is by converting it into electricity. The construction of the average outboard engine is not such as to readily permit taking the power from its shafting without some alteration in its structure, which would at once hamper its utility as originally intended. The fact that the engine must be water-cooled introduces complications which are not readily overcome if the engine is to be used in other ways.

Perhaps the simplest method of all which applies particularly to those types of machines which use water pumps would be to remove the propeller from the hub and clamp the engine on the transom board of the rowboat in its accustomed position. By now allowing the engine to run, it will solve its own cooling problem, and also the problem of placing it in a (Continued on page 64)

## Rules for the Prize Contest

ANSWERS to the above questions for the September issue, addressed to the editor of *MoToR Boating*, 119 West 40th St., New York, must be (a) in our hands on or before July 25, (b) about 500 words long (c) written on one side of the paper only (d) accompanied by the senders' names and addresses.

The names will be withheld and initials used. QUESTIONS for the next contest must reach us on or before July 10. The editor reserves the right to make such changes and corrections in the accepted answers as he may deem necessary.

The prizes are: For each of the best answers to the questions above, any article or articles sold by an advertiser advertising in the current issue of *MoToR Boating* of which the advertised price does not exceed \$25, or a credit of \$25 on any article which

sells for more than that amount. There are two prizes—one for each question—but a contestant need send in an answer to only one if he does not care to answer both.

For answers we print that do not win a prize we pay space rates. For each of the questions selected for use in the following month's contest, any article or articles sold by an advertiser advertising in this issue of *MoToR Boating* of which the advertised price does not exceed \$5, or a credit of \$5 on any article which sells for more than that amount.

All details connected with the ordering of the prizes selected by the winners must be handled by us. The winners should be particular to specify from which advertisers they desire to have their prizes ordered.

# A Small Size KERMATH

*Two Cylinder Unit Power Plant, Which is Half of the  
Twenty Horse Power Size, Fills Popular Demand*

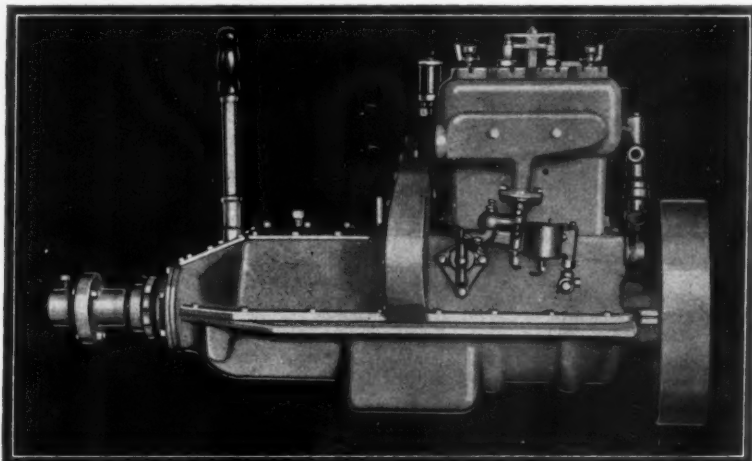
**A** SMALLER size Kermath engine is now being produced by the Kermath Manufacturing Company, which will fill a popular demand for an engine of lesser power than the standard four-cylinder units built by the same company. These engines, while they are new to the public, have been in production for some time on special requirements for some Government marine departments.

The machine is built as a half-size unit of the standard Vanadium 20, the four-cylinder unit, with a bore and stroke of 4 inches. This machine is in general similar, and fitted with a plunger pump, bolted directly to the cylinder, with the pump valves incorporated in the pump casting. Lubricating oil is supplied in the conventional Kermath way, using a small plunger pump which maintains the oil level under the connecting rod dipers. Main bear-

ings are supplied with large oil reservoirs, so that an ample supply is carried over the bearings continually. The oil is taken from the reservoir through a strainer to the pump directly to a sight-feed glass, and then to the forward portion of the engine, and over the timing gears.

A 7/8-inch Mayer carbureter is fitted to the engine, and supplied with a strainer. The reverse gear is a very heavy one, which uses five plates in a multiple disc clutch, the same as in the four-cylinder machines. The reverse gear shaft is carried on a double row of New Departure ball bearings, which take the radial and thrust loads. Back

of these bearings there is a large stuffing box, which prevents the oil from coming out of the shaft end. Propeller shaft couplings are fitted to a taper shaft and do away with set-screws in the coupling. A Bosch two-cylinder magneto furnishes the ignition for the machine. While the engine is not furnished with an electric starter, as a regular fitting, one can be supplied at an extra charge if wanted.



The intake side of the little 10 h.p. Kermath, two cylinder engine

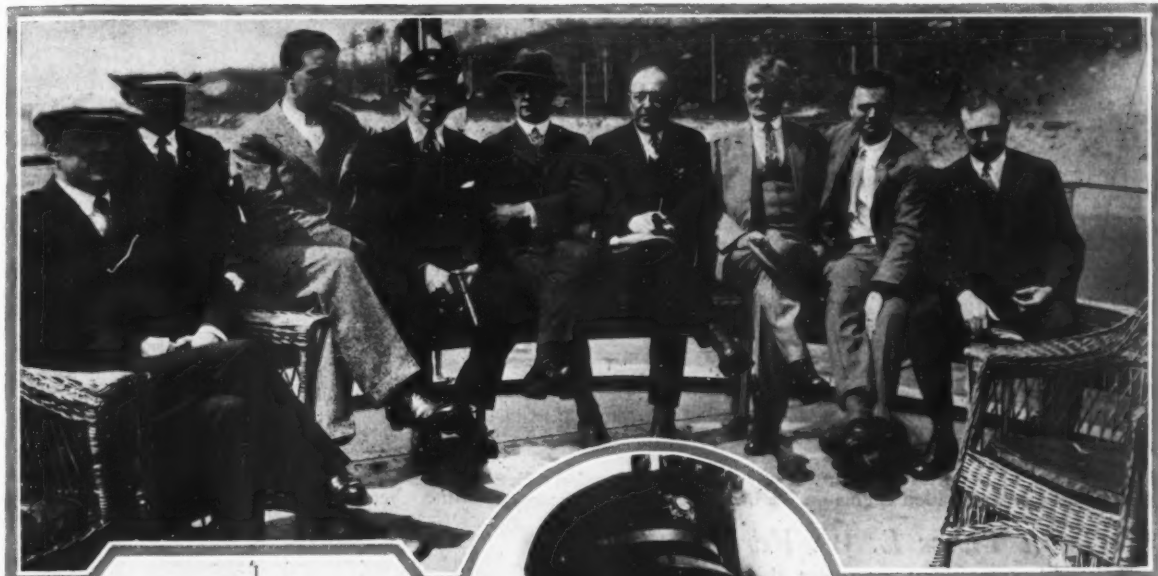
## TOM MIX Enjoys Speed

**T**OM MIX is a yachtsman as well as a movie actor. Out around Los Angeles, his home port, he is just as enthusiastic about yachting and as famous as a yachtsman, too, as most people know him as a screen star. He likes to put aside his Western sombrero and don his yachting uniform for a cruise on the Pacific.

Tom Mix has owned a number of boats, and they have all been Hall-Scott powered. His latest craft is a 69-foot express cruiser, powered with a pair

of six-cylinder Hall-Scott Marine Engines, which give Miss Mixit a speed of 18 miles per hour.





The party on the first trip of Peary: Arthur Cobb, Paul Klugh, J. A. MacDonald, E. F. McDonald, Jr., Commander Donald B. MacMillan, J. W. MacLaren, C. R. Thordarsen, R. W. Veghte and E. W. Hale



Commander Donald B. MacMillan, who is again on his way to the far north



Peary, the former mine sweeper, now the exploration ship of MacMillan

# Mac Millan Sails to the ARCTIC

*MacMillan Expedition Finds Craft in New York to Take Them on New Exploration Trip*

By JOSEPH A. McDONALD

"WHAT have you to offer for sale in a good, seaworthy, staunch ship, heavily constructed, capable of breaking very heavy ice, and having enough deck space so as to permit stowing three Navy amphibian planes on the deck?"

With this question the speaker introduced himself as E. F. McDonald, Jr., of the Chicago Yacht Club, a Lieutenant-Commander in the United States Naval Reserve, and turning to his companion, introduced none other than the famous and intrepid Arctic explorer, Commander Donald B. MacMillan.

MacMillan then outlined that it was necessary to have a ship that could buck the ice floes in Melville Bay, and follow the leads through the ice fields as far north as Etah. He explained that in order to do this the vessel must be constructed to withstand any pressure that the ice might subject it to, and her bow must be reinforced so as to break these leads and widen them.

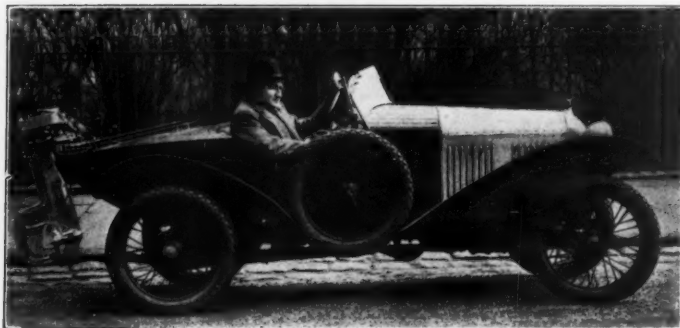
One after another of the yachting fleet was abandoned or discarded for some (Continued on page 112b)

MacMillan and Captain McDonald, inspecting the radio equipment of the steamer Peary



# Yard and Shop

Notes of Interest to Both Owner and Manufacturer



J. W. Shillan, of the Elto Outboard Motor Company's London office, carries a demonstration engine on the back of his fast Amilcar

## Death Takes L. W. Ferdinand

IT is with deep regret we report the death, on May twenty-first, 1925, of Lorrin Way Ferdinand, founder and head of the firm of L. W. Ferdinand & Co., Importers and Manufacturers of Marine Glues and Linoleum Cements.

Mr. Ferdinand began in business on December first, 1873, at the age of 19 years, when he purchased the hardware store of Fred S. Wright, then located at 267 Federal Street, Boston. At that time he established the firm which ever since has borne his name.

About 1880 the sole agency for Jeffery's marine glue for the United States and Canada was obtained from Alfred Jeffery & Co. of London, England. This branch of the business has developed since then, until at the present time Jeffery's marine glue has become a standard

ing demand for Jeffery's marine glues, made it advisable to close out the hardware end of the business in 1905, after which Mr. Ferdinand devoted the entire energies of his company to increasing the scope of the special branches of marine glues and waterproof adhesives.

Many of his friends will remember that the fiftieth anniversary of the founding of his company was celebrated in December, 1923.

During his long career Mr. Ferdinand enjoyed the highest esteem and full confidence of the trade. His genial ways and absolute fairness made for him a host of friends.

## 1,800 Miles, Non-Stop

An effort is to be made to cover the 1,800 miles between St. Paul, Minn., and New Orleans, La., on a small cruiser, without



A class of baby knockabouts built by the Cape Cod Ship-building Corporation, racing at the Cohasset Yacht Club. Over 400 of these boats are in use



The smart little 18-foot runabout which is being built by the Paul S. Gesswein Boat Company of Brooklyn

article among ship and yacht builders and with many hardware and sporting goods dealers throughout the length and breadth of the Western Hemisphere.

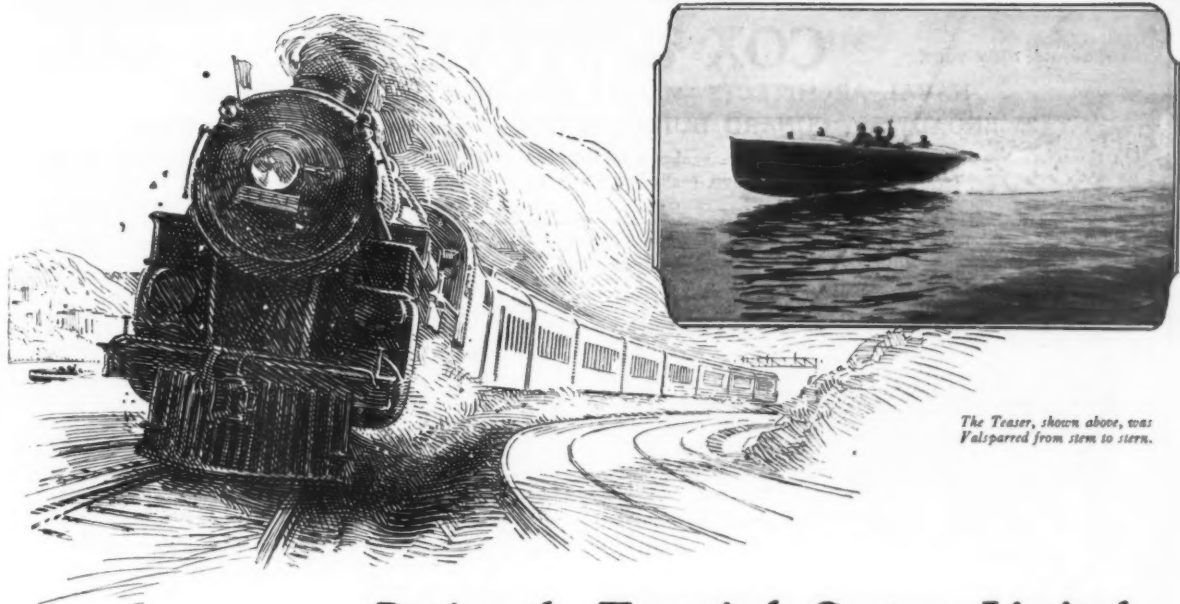
About 1900, in response to an increasing demand by the Government and others for a waterproof adhesive for laying linoleum, the firm began the manufacture of the 20th Century line of linoleum cements, mixing various materials together in a gallon can by hand. The continued increase of this line, together with the grow-

stopping the engine for the entire trip. The little boat is twenty-four feet long, owned by R. K. Anderson of Peoria, who will be accompanied by A. H. Frost of Detroit, H. A. Starkweather, and H. K. Harrison. The run is being sponsored by the Mississippi Valley Power Boat Association, all of whose clubs along the route to be followed are cooperating in order to make the test a success. A stunt of this nature has never before been attempted, and it is attracting much attention. The engine powering this little job is one of the Universal Flexifours, and it is expected to drive the boat the entire 1,800 miles in ten days and nights. (Continued on page 60)



The Matthews Company, of Port Clinton, Ohio, are hard pressed to supply the demand for their 38-foot cruisers. A large number of these have been shipped, and those shown are being loaded on flat cars for transportation to customers at distant points





The Teaser, shown above, was Valsparred from stem to stern.

## Pacing the Twentieth Century Limited

Speeding along the Hudson from Albany to New York, Teaser and Baby Gar IV recently showed their heels to the Century, the crack flyer of the New York Central Lines.

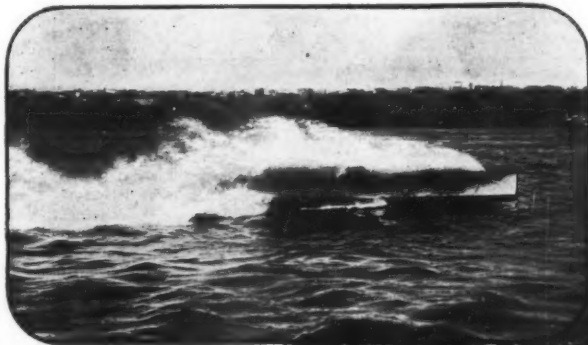
The Teaser, shown at the right above, raced up the Hudson from New York City to Albany in 2 hours and 40 minutes—27 minutes faster than the 20th Century's scheduled time. The Teaser is owned by Richard F. Hoyt. She was designed by George F. Crouch and built by Henry Nevins Inc.

A grueling test indeed! Over every foot of the way, these speed boats had to maintain a break-neck speed in the face of conditions that were, at times, unusually trying!

Their success was the natural result of careful planning and forethought. In design, material and equipment, these record-breakers represented the finest in speed-boat construction. And in the matter of varnish—Valspar, of course!

Waterproof, weatherproof, unusually elastic and tough, Valspar has proved again and again its ability to meet the most exacting conditions of marine service.

Small wonder then that Valspar is used on fine craft the world over.



Above—Rough going for the Baby Gar IV on its sensational run of 2 hours and 58 minutes from Albany to New York City.

At Right—The Baby Gar IV and V are owned by Gar Wood and were built by Gar Wood Inc. Photos, M. Rosenfeld, N. Y.



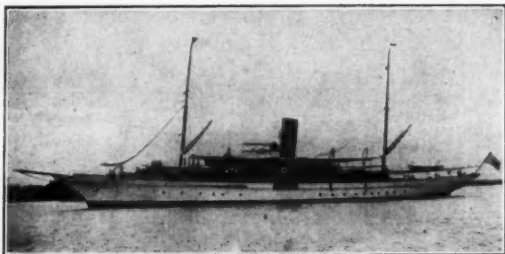
When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York

Cable Address:  
**BROKERAGE, NEW YODK**

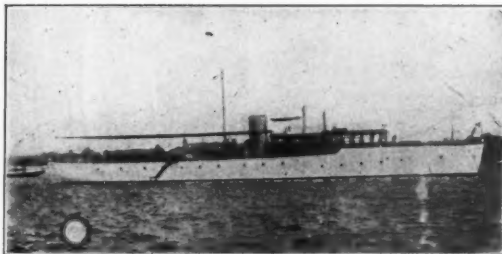
# COX & STEVENS

 Telephone:  
**WHITEHALL 2700**
**NAVAL ARCHITECTS—MARINE INSURANCE—YACHT BROKERS**
**25 BROADWAY, CUNARD BUILDING (Morris Street Entrance), NEW YORK**

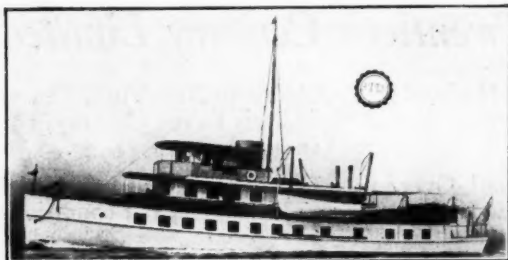
On this page are shown a few representative yachts selected from our large lists. Should none appeal kindly acquaint us with your requirements. Full information regarding costs to build, purchase or charter yachts of all types gladly furnished.



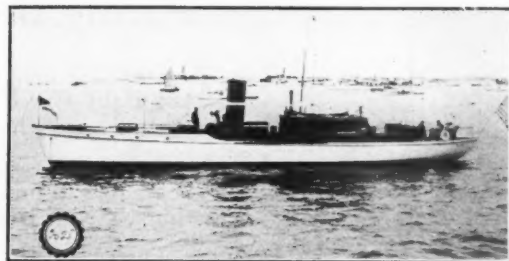
No. 341—For Sale or Charter—Large, seagoing steam yacht. Palatial accommodation. Unusual opportunity. Several similar larger and smaller available craft. Cox & Stevens, 25 Broadway, New York.



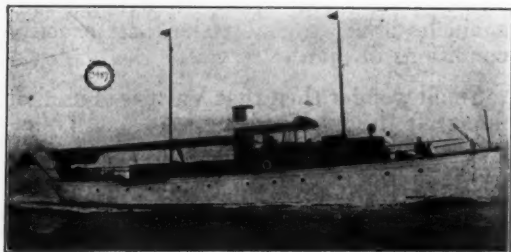
No. 885—FOR SALE OR CHARTER—Fast, steel, twin screw, cruising power yacht, approximately 120 ft. in length. Speed up to 16-17 miles; Winton Motors. Unusually large accommodation, including deck dining saloon, three staterooms, bath and two toilets. Handsomely finished and furnished. COX & STEVENS, 25 Broadway, New York.



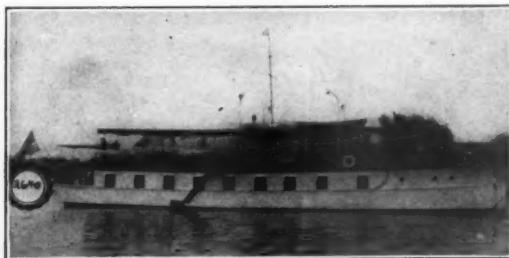
No. 3793—FOR SALE OR CHARTER—Commodious twin-screw motor houseboat; 100x22x4 ft. Speed, 11-12 miles; two 6 cyl. 125-150 H.P. Winton gasoline motors, new 1923. Splendid accommodations, includes double and single stateroom and living room in deckhouse; five staterooms and three baths below forward; dining saloon amidships. All conveniences. Price and further particulars from Cox & Stevens, 25 Broadway, New York, N. Y.



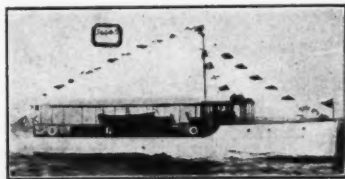
No. 2025—FOR SALE—Lawley 83-ft. cruising power yacht. Speed up to 16 miles. 6 cyl. Standard motor. Accommodations include saloon with two extension berths, two double staterooms, bath and two toilets. Roomy bridge and large after deck. Bargain for quick sale. Cox & Stevens, 25 Broadway, New York, N. Y.



No. 3489—FOR SALE—Particularly attractive 90 ft. twin-screw cruising motor yacht. Built 1917. Speed 13-14 miles; Winton Motors. Deck dining saloon, three staterooms, bath and two toilets. Handsome finished and furnished. COX & STEVENS, 25 Broadway, New York.



No. 2640—FOR SALE OR CHARTER—Modern twin-screw 80-ft. Mathis motor houseboat. Speed up to 12 miles; two 6-cylinder Standard motors. Deck dining saloon; below forward two double and two single staterooms, lobby containing transom, two baths and toilet room. Excellent condition. Price and further particulars from Cox & Stevens, 25 Broadway, New York.



No. 3664—FOR SALE—Twin-screw high speed 62-foot cruising power yacht; speed up to 23 miles, two 6-cylinder 180 h.p. Speedway motors, new 1923. Enclosed bridge. Double stateroom, dining saloon with two transom berths, galley, etc. Whole outfit in A-1 condition. Price very reasonable. Further particulars from Cox & Stevens, 25 Broadway, New York.



No. 4245—FOR SALE—Attractive 48-ft. bridge deck cruiser. Recent build. Speed, 10 miles; 40-60 H.P. motor. Saloon with three berths, double stateroom, 2 toilet rooms. Cox & Stevens, 25 Broadway, New York, N. Y.



No. 4393—For Sale—High speed 50 ft. twin-screw cruiser. Speed up to 30 miles; two 6 cyl. 200 H.P. Sterling motors. Hull double planked mahogany. Stateroom, saloon, toilet room, etc. Price reasonable. Cox & Stevens, 25 Broadway, New York.

**PLANS, PHOTOGRAPHS AND PRICES ON REQUEST**

NAVAL ARCHITECTS  
ENGINEERS  
YACHT BROKERS  
MARINE INSURANCE

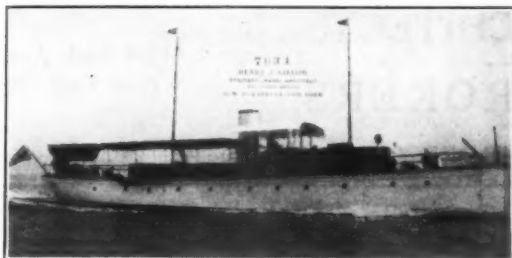
## HENRY J. GIELOW, Inc.

25 West 43rd STREET, NEW YORK

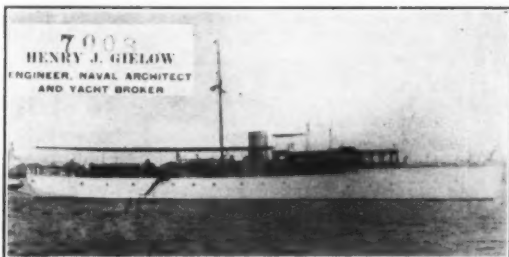
Tel.: Murray Hill 9134  
Cable Address:  
Crogie, New York  
A.B.C. Code

Plans and specifications for new yachts of any size or type should be prepared now to assure delivery for next year. Have plans of new yachts, all types, on file now.

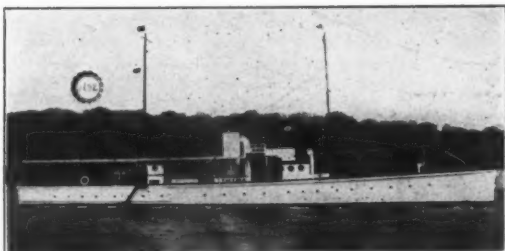
We have a most complete and up-to-date list of steam and motor yachts of all sizes, sail, auxiliary, and houseboats, on file in our office, kept constantly up-to-date by thorough and comprehensive canvass of the entire yachting field from time to time. We are in a position to submit full information on any type of boat upon request.



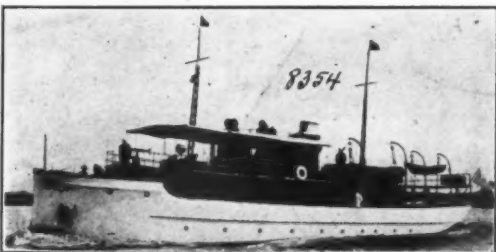
No. 7034—For Sale—High-class, 90-foot twin screw motor yacht (never in war service). Built our design, always well owned and now perfect condition throughout. Two 6 cyl. Winton motors, all Winton auxiliary machinery and all furnishings renewed 1922. Twenty-foot deck house contains dining saloon. Has 2 double, one single stateroom. Speed 13-16 miles. Able sea boat. Henry J. Gielow, Inc., 25 W. 43d St.



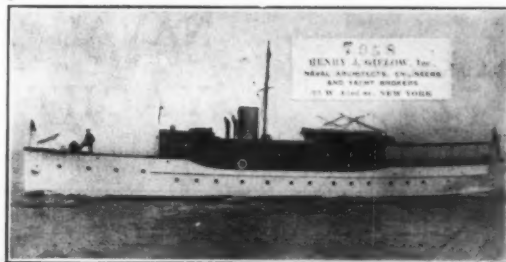
No. 7008—For Sale—Fast 118-foot, twin-screw steel motor yacht with two six cyl. Winton motors, gives speed 14-16 miles. Deck galley and dining saloon. Three double staterooms, two baths. Handsomely furnished and most complete. Thoroughly renovated throughout 1920. Henry J. Gielow, Inc., 25 W. 43d St.



No. 7861—For Sale—Handsome fast, able, twin-screw motor yacht, 138x16'4"x9", built of steel, has two 265 H.P. Speedway motors, Kelvinator ice machine and complete every detail. Social hall and dining saloon on deck. Two double, three single staterooms, two baths. Speed 15-17 knots. Just returned from winter cruise West Indies. Finest condition, fully equipped. Henry J. Gielow, Inc., 25 W. 43d St.



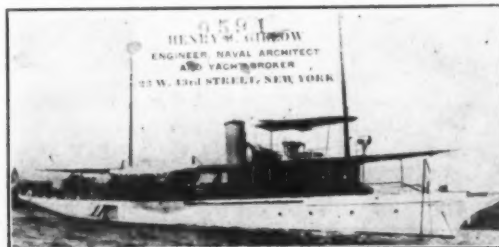
No. 8354—Great opportunity. Recent built twin Diesel yacht, reasonable price. 97'x17'6"x6'6". Speed, 9-12 knots. Able sea-boat and steady. Three staterooms, bath, officers' shower, fine crew quarters. No expense was spared in perfecting every detail. Owner, having new yacht, will greatly sacrifice. In-spectable South, but worthy serious consideration anyone wanting a bargain.



No. 7958—For Sale—Modern Diesel motor yacht, built 1923. 98x15x5'6", 170 H.P. Bessemer Atlas engine, speed 12-14. One continuous teak deck house has living room and dining saloon. Has two double, one single stateroom, bath, sleeps 8-12. All fine condition and complete. Henry J. Gielow, Inc., 25 W. 43d St.



No. 9312—For Summer Charter—Located Quebec. Handsome, able, seagoing twin-screw motor yacht. 106x16x6'6". Ideal craft for extended cruising. Two 6 cyl. Winton motors, speed 12 knots. Deck dining saloon, 1 double, 5 single staterooms. All deck trim of teak. Two independent electric plants. Completely furnished. Henry J. Gielow, Inc., 25 W. 43d St.



No. 9591—Exceptional bargain by estate. Twin-screw 90-foot steam yacht, 16' beam, 5' draft; far more economical operation than any motor yacht same size. Hull, machinery, boilers by Seabury. Speed, 12-15 miles. Located St. Lawrence, fine condition. Completely equipped, sleeps nine. Opportunity quick sale.



No. 7584—For Charter—In commission New York, may sell also, as owner going abroad. 100'x17'x5', has largest accommodations any yacht of size. Double and single stateroom and bath forward; saloon, three single rooms and bath aft. Sleeps total 9-11. Two 6-cylinder 20th Century motors, new 1923. All new furnishings. Very able, large deck room and complete all details. Deck galley. Speed, 12-15 miles, and economical with six crew.



# TAMS & KING

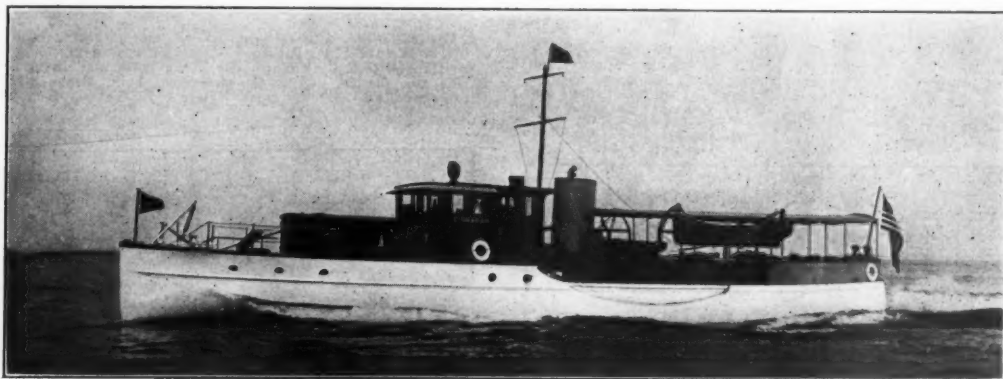
FORMERLY TAMS, LEMOINE & CRANE

NAVAL ARCHITECTS  
—AND—  
YACHT BROKERS

Tel. Murray Hill 6656

250 Park Ave.,  
New York City

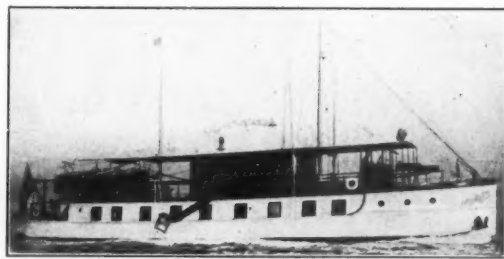
OFFER ALL OF THE DESIRABLE YACHTS AVAILABLE FOR SALE AND CHARTER, SOME OF WHICH ARE ILLUSTRATED BELOW



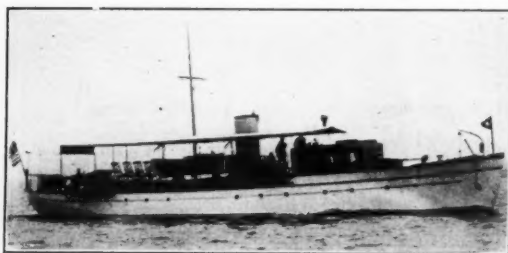
No. 7973. For sale. This attractive twin screw Motor Yacht, one of the smartest and roomiest boats of her size. In perfect condition, two double staterooms, bathroom and large dining saloon. Inspectable in New York.



No. 1798. For sale or charter—this desirable 68' twin-screw houseboat, built late in 1924. Has exceptional accommodations, which include 2 double and 2 single staterooms, two baths and large deck saloon. Inspectable near New York.



No. 1912. For charter for August and September this commodious 77' houseboat; speed, 10 miles. Has 4 staterooms, 2 baths, dining saloon and deck sitting room.



No. 8750. For sale or charter—this 83 foot motor yacht. Twin screw motors give speed of 12 knots. Has two double staterooms, main saloon and large deck dining saloon. Equipment and furnishing very complete.



No. 8205. For sale—this attractive 50' raised deck cruiser with twin-screw motors of 50 H.P. each. Cabin with 4 berths, toilet, galley and crew's quarters for 2. Has separate lighting plant and over 6 feet headroom throughout.



## YACHTMEN'S SERVICE AGENCY

1233 Real Estate Trust Building, Philadelphia, Pa.

Phone: Walnut 4830

ILLUSTRATED LISTING OF YACHTS FOR SALE  
BOATS FOR SALE AND CHARTER

## CLASSIFIED LISTING

164'6" x18' x6'8"	Steam Yacht	(2) Triple Expansion Engs.
120' x14'4" x5'	Steel Hull	(2) 200 HP Wintons.
110' x18' x6'6"	Wood Hull	(2) 180 HP Craig Deisels.
110' x14'11" x5'5"	Gov. Hull	(2) 250 HP Standards.
80' x14' x3'7"	Wood Hull	(2) 200 HP Van Blercks.
78' x14' x3'6"	Wood Hull	(2) 254 HP Standards.
71' x16'5" x4'	Wood Hull	90 HP Standard.
68'6" x13' x3'	Wood Hull	(2) 40 HP Lambs.
65' x14' x4'7"	Wood Hull	80 HP Winton.
64' x12' x4'6"	Wood Hull	50 HP Sterling.
64'10" x14' x3'10"	Wood Hull	(2) 100 HP Sterlings.
58'6" x12' x4'	Bridge Deck	90 HP M. & T.
58'2" x10'6" x4'4"	Bridge Deck	(2) 150 HP Van Blercks.
57' x11'4" x3'6"	Bridge Deck	37 HP Standard.
52' x11'3" x3'	Bridge Deck	150 HP Speedway.
50'8" x10'10" x3'6"	Bridge Deck	37 HP Standard.
50'3" x10'7" x4'	Bridge Deck	50 HP Sterling.
48'9" x12' x3'	Bridge Deck	(2) 24 HP Palmers.
40' x12' x3'	Bridge Deck	16 HP Standard.
40' x10' x3'	Bridge Deck	55 HP Sterling.
38' x10'8" x3'	Bridge Deck	(2) 20 HP Engines.
38' x10' x3'3"	Bridge Deck	24 HP Palmer.
33' x9'5" x3'	Bridge Deck	40 HP Frisbie.

## RAISED DECK CRUISERS

60' x15'7" x4'6"	Raised Deck.	75 HP Murray & Trequitha.
57' x11' x3'4"	Raised Deck.	55 HP Standard.
50' x10' x3'5"	Raised Deck.	60 HP Speedway.
45' x 6'6" x3'4"	Raised Deck.	35 HP Standard.
41' x10' x3'6"	Raised Deck.	65 HP Sterling.
40' x12' x3'	Raised Deck.	30 HP Vulcan.
37'2" x 8'6" x3'	Raised Deck.	40 HP Engine.
36' x 9' x2'6"	Raised Deck.	150 HP Speedway.
33' x 8'6" x3'	Raised Deck.	50 HP Fay & Bowen.
41' x10'6" x3'	Raised Deck.	20 HP Hall.

## TRUNK CABINS

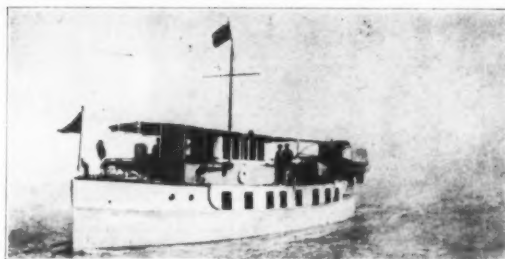
59'6" x12'4" x2'9"	Trunk Cabin.	50 HP Harris.
50' x13' x3'6"	Trunk Cabin.	37 HP Standard.
46' x11'6" x3'4"	Trunk Cabin.	60 HP Frisbie.
33' x 9' x2'9"	Trunk Cabin.	35 HP Scripps.
30' x 9'8" x3'	Trunk Cabin.	12 HP Palmer.
30' x 7'6" x2'6"	Trunk Cabin.	72 HP Fay & Bowen.
28'6" x10' x3'	Trunk Cabin.	20 HP Knox.
22' x 6' x2'	Trunk Cabin.	6 HP Caille.

## EXPRESS CRUISERS

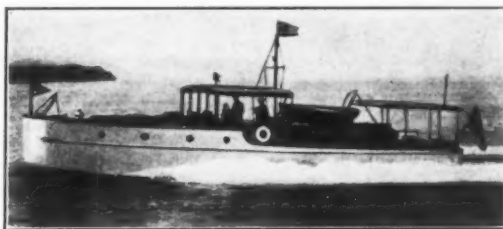
66' x11'4" x3'2"	Exp. Cruiser.	(2) 200 HP Van Blercks.
52' x11'4" x3'4"	Exp. Cruiser.	(2) 135 HP Speedways.
45' x10'4" x2'9"	Rochester.	85 HP Sterling.
42' x 9' x2'11"	Lawley Cruiser	300 HP Sterling.

## AUXILIARIES

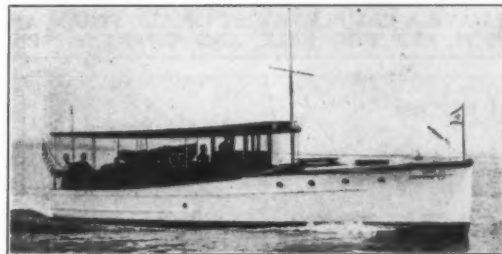
63'6" x15'6" x4'	Aux. Yawl.	40 HP Scripps.
49'6" x14' x3'	Aux. Sloop.	16 HP Frisbie.
44' x13' x5'	Aux. Yawl.	12 HP Palmer.
39'6" x13' x3'6"	Aux. Sloop.	16 HP Standard.
40'10" x14' x5'6"	Aux. Schooner.	12 HP Lathrop.
32' x 9'9" x4'10"	Aux. Schooner.	40 HP Scripps.
31'10" x11'6" x5'	Cat Ketch.	7 HP Frisbie.
40' x10' x3'	Bugeye Sch'r.	7 HP Regal.



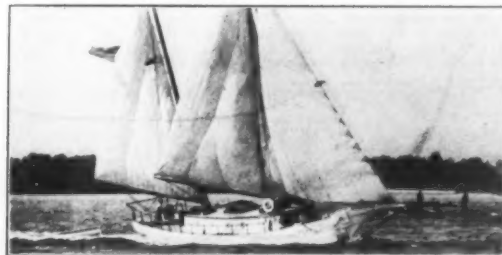
70'x16'8"x2'3" Powered House Boat. 2 6-cylinder Sterling engines; 3 state rooms—1 double and 2 single; 2 baths, large dining salon, and deck salon. Boat in good condition. For further particulars, write Yachtmen's Service Agency.



54-foot Great Lakes Express Cruiser. 2 8-cylinder Sterling engines. Speed 28 to 30 miles per hour. Comfortable sleeping accommodations for a party of six and a crew of two. For further particulars, write Yachtmen's Service Agency.



45-foot Elco Cruiser. 4-cylinder Standard Engine. Accommodations for six and crew of two.  
Two 40-foot Elco Cruisers. 4-cylinder Elco Motors. Boats in excellent condition. Accommodations for six with extra man. For further particulars, write Yachtmen's Service Agency.



For sale or charter. 55'x14'x4' Auxiliary Bugeye Schooner. 32 HP Hall heavy duty motor. Boat in excellent condition. A real summer home afloat. Large salon, double stateroom, galley, crew's quarters; forward, plenty of deck space, and the easiest handled boat afloat. For further particulars, write Yachtmen's Service Agency.

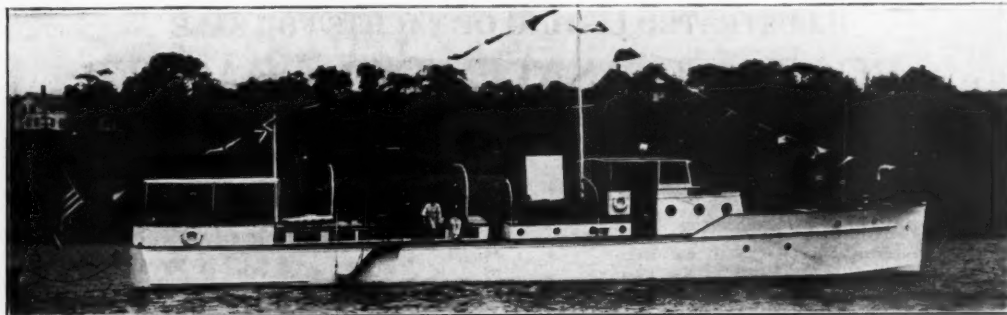
# WILLIAM GARDNER & CO.

*Naval Architects, Marine Engineers and Yacht Brokers*

Phone 8638 Bowling Green

NO. 1 BROADWAY, NEW YORK

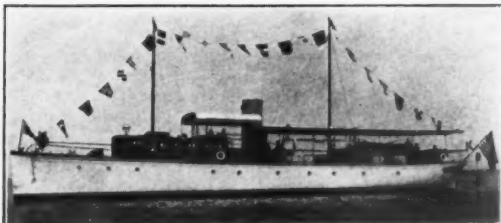
Cable Address: Yachting, N. Y.



No. 2334—FOR SALE OR CHARTER—Attractive 85-ft. twin-screw Lawley built power yacht, equipped with two 6-cylinder 200 H.P. Sterling motors; speed, 16 miles. Deck saloon, 2 double and 3 single staterooms, bath room and additional toilet room. Everything in A-1 condition, ready for immediate use.



No. 1802—Sale and Charter—Steel, twin screw power yacht, 110' x 16'; two 6-cylinder Standard motors. Very large deck house and exceptional owner's accommodations. Plan and full details gladly submitted.



No. 2331—Flush deck, power yacht, 90 x 16.3 x 5.6, equipped with two 6-cylinder Winton motors, has excellent accommodation and of staunch construction.

**YACHT BROKERS**  
**NAVAL ARCHITECTS**

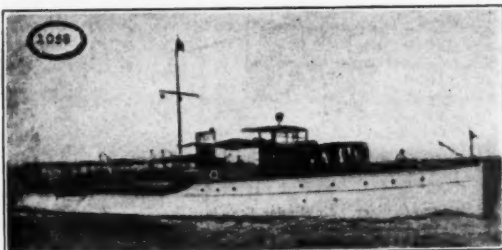
## Henry C. Grebe & Co., Inc.

6 NORTH MICHIGAN AVE., CHICAGO

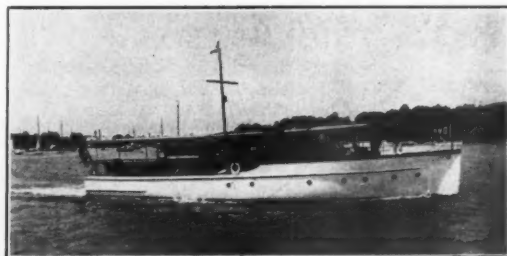
TELEPHONE CENTRAL 1261

**MARINE INSURANCE**  
**SURVEYING**

WE HAVE A COMPLETE LIST OF ALL STEAM AND POWER YACHTS, AUXILIARIES, AND HOUSEBOATS, WHICH ARE FOR SALE AND CHARTER. Plans, photographs and full particulars furnished on request.



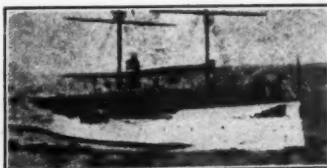
No. 1058—For Sale—Desirable twin screw cruiser new 1921 92' x 15' x 5'. Powered with two 80-110 H.P. 6 cylinder Winton motors. Large deck dining saloon. Very commodious. Owner's double stateroom with large bath and dressing room. One double and single guest stateroom. Very attractively finished and equipped. Further particulars. Henry C. Grebe & Co., Inc., 6 North Michigan Avenue, Chicago, Ill.



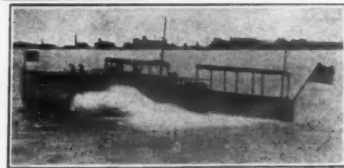
No. 1107—For Sale—Twin screw cruiser. Recent construction. 65'x14'6"x4'. Two double staterooms, large saloon, 2 toilets and bath in owner's quarters. Sleeps eight. Sterling engines. Speed 15 miles. Price attractive. Henry C. Grebe & Co., Inc., 6 No. Michigan Ave., Chicago, Ill.



No. 1057—For Sale—Twin screw. New 1921; 50 ft. x 12 ft. x 3 ft.; very complete and in excellent condition. Sleeps six comfortably in owner's quarters. Has comfortable deckhouse and roomy afterdeck. Reasonable price. Henry C. Grebe & Co., Inc., 6 North Michigan Avenue, Chicago, Ill.



No. 324—For Sale—68' cruising power yacht. Brigantine rigged. 13' 6" beam, 5' draft. Two double staterooms, commodious dining saloon 8 cyl. Sterling motor. Cruising speed 13 miles. Independent electric plant. Has received exceptional care and is in very good condition. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



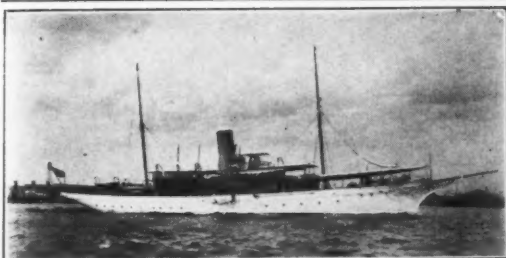
No. 1124—For Sale—42 ft. x 10 ft. x 3 ft. Great Lakes Day Cruiser. Used very little. Best condition. 6 cylinder Sterling engine. Speed up to 23 miles. Sleeps four. Large cockpit. Engine room separated from rest of boat. Price very low. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.

# FRANK BOWNE JONES

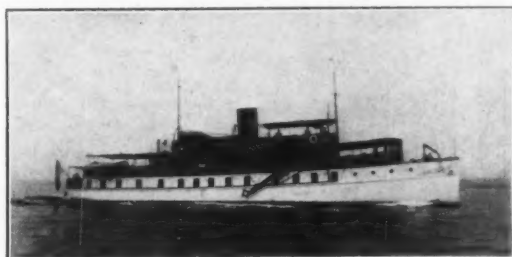
 Telephone  
 Whitehall 1170

**YACHT AGENT and SHIP BROKER**  
**Cunard Building, 25 Broadway, New York**  
 OFFICE No. 1851

 Cable Address  
 "Windward," N. Y.

**Sales and Charters—Naval Architecture—Marine Insurance**


No. 5620—For Sale—Ocean going steel steam yacht built to Lloyd's highest rating. A number of larger and smaller yachts of similar type. FRANK BOWNE JONES, Yacht Agent, 25 Broadway, New York.



No. 2277—For Sale or Charter—Power house yacht. Length 115'. Recent build. Probably the best yacht of this size and type. Commodious accommodations. Handsomely fitted. FRANK BOWNE JONES, Yacht Agent, 25 Broadway, New York.



No. 7242—For Sale—73-ft. twin-screw power yacht. Recent build. Sterling motors. Excellent accommodations. Speed 15 to 18 miles. FRANK BOWNE JONES, Yacht Agent, 25 Broadway, New York.



No. 4704—For Sale—Power house yacht, 67 ft. long. Best design and build. Practically new. Now on way North. FRANK BOWNE JONES, Yacht Agent, 25 Broadway, New York City.



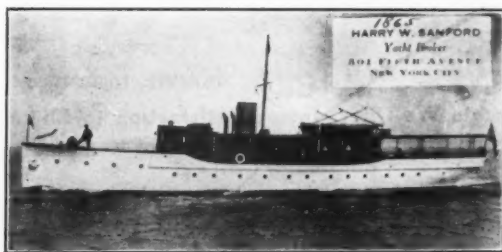
No. 5572—For Sale—60-ft. V-bottom express cruiser. 2GR Sterling motors. Bridge deck. Double stateroom, large saloon, bath. FRANK BOWNE JONES, Yacht Agent, 25 Broadway, New York City.

 Telephone  
 Vanderbilt 2963  
 Cable Address  
 Yachtsan, N. Y.

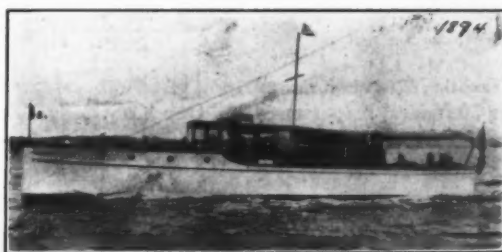
## HARRY W. SANFORD

**501 FIFTH AVENUE (42d ST.), N. Y.**
**YACHT BROKER**  
**INSURANCE**  
**APPRAISER**

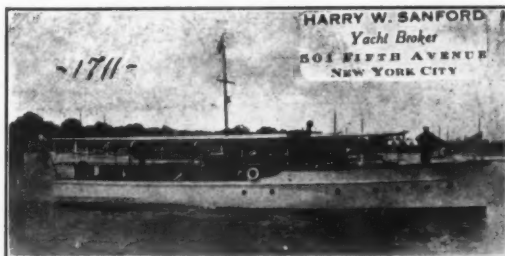
Our Motto: "To offer yachts, whether large or small, which will be a pleasure for you to own and a recommendation for us to sell; to render such service as to have you feel you would like to do business with us again."



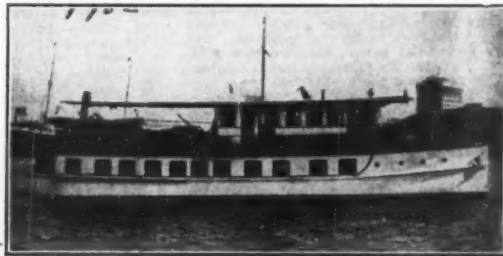
No. 1865—For Sale—Attractive Diesel motor yacht, built 1923. Three staterooms, bath, deck dining saloon and living room. Sleeps 8-12. Speed, 14 miles. Unusually well-equipped and most modern in every respect.



No. 1894—For Sale—50' fast motor cruiser; speed, 18 miles. Sleeps 4 persons besides crew. Galley, etc. Large cockpit. Built in 1923. Of the highest type of construction, clean-cut and able.



No. 1711—For Sale—Very desirable 65' twin-screw cruiser, speed 15 miles. 2 roomy double staterooms, bathroom and deck dining saloon. Fine galley. Hot water heating plant. Built in 1924 and one of the finest yachts of her length available.



No. 1782—For Sale or Charter—60' twin-screw houseboat, built in 1922. Has 2 single and 2 double staterooms, deck dining saloon, bathroom, etc. A well-arranged yacht, roomy, comfortable and able.

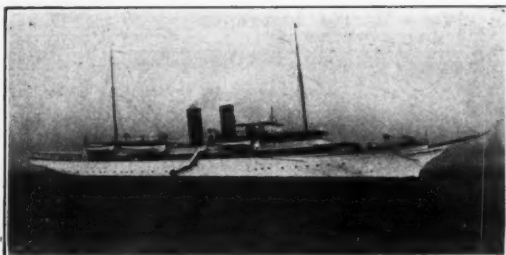


# R. M. HADDOCK

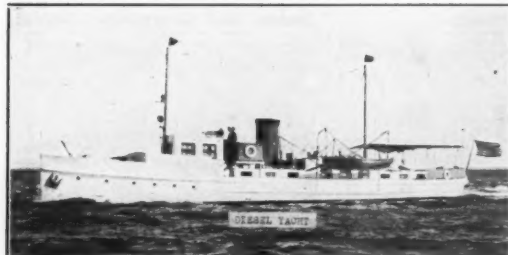
**NAVAL ARCHITECT**
**MARINE INSURANCE**
**YACHT BROKER**

50 EAST 42ND STREET, NEW YORK CITY

TELEPHONE, VANDERBILT 10499



No. 130—FOR SALE—Large seagoing steam yacht, 263' x 29' x 16' draft. Palatial accommodations. Owner will sacrifice for immediate sale. For further particulars, apply to R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



No. 3017—FOR SALE—Diesel Motor Yacht, 77' x 14' x 6' draft—cruising radius 1600 miles at 10 knots. Two double staterooms and saloon. Deckhouse. Can be operated at one-half the cost of gas driven vessel same size. All motor controls on the bridge. For further particulars apply to R. M. HADDOCK, 50 East 42nd Street, New York City.



No. 3258—FOR SALE—Twin screw motor yacht, 70' x 14' x 3' 6" draft. New 1924. Two Speedway motors, speed up to 18 M. P. H. Accommodations consist of two double staterooms, bath room, large dining saloon forward; one of the finest yachts of her type available. For further particulars apply R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



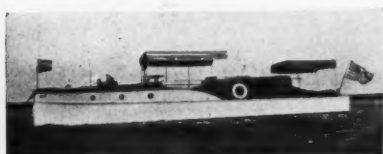
No. 4141—FOR SALE—Bridge deck cruiser designed and built by Herreshoff 1915. Sleeps 6 persons, 32' x 8' 6" x 3' draft. Speed up to 10 M. P. H. For further particulars apply R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.

**HENRY H. JENNINGS**
**HERMAN JAGLE**

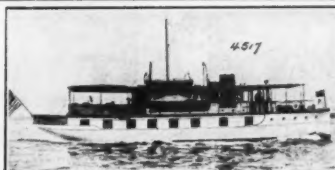
## H. H. JENNINGS COMPANY

**YACHT and SHIP BROKERS**
**TRIBUNE BUILDING**
**Surveying**

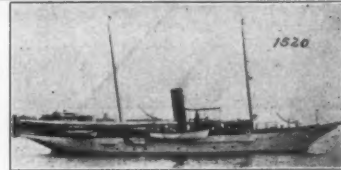
 Cable Address  
 Yachtbroco, New York

**154 Nassau Street**
**New York City**
**Marine Insurance**
**Our 30 Years' Experience and Our Knowledge of the Yachts We Offer, Insure Satisfaction to Clients.**


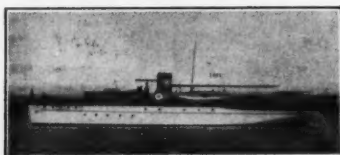
No. 2262—40-ft. Express Cruiser. Four berths in forward cabin and two berths in after cabin. Sleeps six persons. Toilet room. Mahogany and white finish. 200 H.P. Hall Scott motor, installed new 1922. Speed up to 28 miles. Electric lights. Bridge deck has glass windshield.



No. 4517—Sale or charter. Twin-screw houseboat, 70'x16'6"x3'6". Three double and one single stateroom. Large deckhouse containing dining and living room. Two toilets and bath. Two 70-80 H.P. motors. Speed, 12-14 miles. Hot water heat. Electric lights, etc.



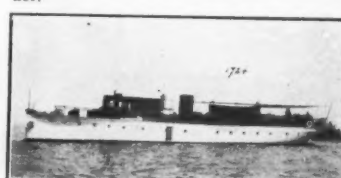
No. 1520—Power yacht, 106 ft. long. Three double and one single stateroom. Extension berth in main saloon. Dining saloon in deckhouse. Two toilets. One bath. 300 H.P. Standard motor. Rebuilt 1925. Speed, 13-14 knots. Electric plant, etc. Bargain for quick sale. Act quickly if you want her.



No. 1281—Twin-screw power yacht, 98'x16'6"x4'6". Two double and two single staterooms. Large dining saloon in deckhouse. Two toilets, one bath. Finished in panelled mahogany. Two 125-150 H.P. Standard motors. Speed, 15 miles. Electric lights, etc. Price attractive.



No. 2384—Canadian power yacht, twin-screw, 65 ft. long. Built 1919. Heavily constructed. Exceptionally roomy. Four staterooms. Large saloon, about 12 ft. long, with four berths. Sleeps ten people. Two toilets. Large galley. Mahogany deckhouse. Two Sterling motors. Speed, 12-16 miles. Separate lighting plant. Price attractive.



No. 1724—90-ft. twin-screw power yacht. Heavily constructed. Splendid seaboard. Two double staterooms. Main saloon with two berths. Lobby with berth. Dining saloon. Two toilets and bath. Two 60-80 H.P. motors. Speed, 11-13 miles. Electric lights, etc. Good proposition.



**"Service That's Different"**

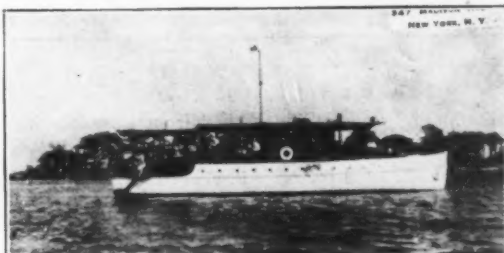
Naval Architects

**JOHN H. WELLS, INC.**347 Madison Avenue, New York City  
Telephone Murray Hill 3126

Yacht Brokers



NO. 3—FOR SALE—Exclusive Offering. 1922 Herreshoff yacht 99' x 15'-6" x 4'-9". Speed 14-15 miles, finest power plant, three double staterooms, living room, dining room, two baths. This yacht has always had the best of care. Further particulars—JOHN H. WELLS, INC., 347 Madison Avenue, New York City.



FOR CHARTER—57' cruiser, 13' beam, 3'-6" draft. Powered with a 6 cyl. 55 H.P. Standard. Speed 10-11 Miles per hour. 3 double, 1 single staterooms, 2 toilets, large deck house, everything in perfect condition. Further particulars JOHN H. WELLS, INC., 347 Madison Avenue, New York City.

Chester A. Nedwike

**CHARLES D. MOWER**

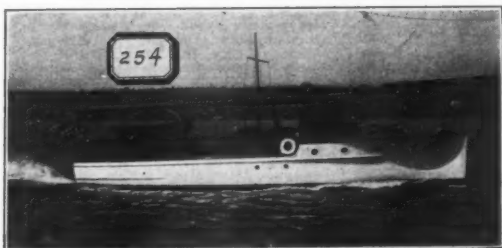
E. P. Nevin

Naval Architect

350 MADISON AVENUE

at Forty-Fifth Street

NEW YORK

Yacht Brokerage  
Marine InsuranceTelephone  
Murray Hill 3748

No. 254—FOR SALE—Bridge deck cruiser, new 1924, 46'x11'x 3'3". Excellent accommodations. Charles D. Mower, 350 Madison Ave., New York City.



No. 357—FOR SALE—65' twin-screw power cruiser, new 1924. Boat in perfect condition, beautifully furnished. Charles D. Mower, 350 Madison Ave., New York City.

**Twin 400 H.P. Murray & Tregurtha high speed six-cylinder complete equipment. Rebuilt and in perfect condition.**

**BARGAIN**

**Bruns Kimball & Co., Inc.**  
50 WEST 17th STREET  
NEW YORK CITY

WANTED—Cruising auxiliary yawl, ketch or schooner, about 45 to 65 feet. Give complete information, type, age, draft, equipment, condition. Location for inspection. Quote lowest cash price. Might accept late September delivery. Address Samuel Adams, 1336 New York Avenue, N. W., Washington, D. C.

Standard, four cylinder, six by eight, self starter, generator, magneto. Price \$600. Late model. PALMER BROS., Cos Cob, Conn.

**POSITION WANTED**

Captain—American, 20 years' experience on sailing and power boats and yachts. Can run, repair and rebuild any make of gas engine. Just back from Florida where I took 100 ft. yacht up and down east and west coast. Can give reference as to honesty and ability. Open for most any kind of proposition. Box No. 148, care MoToR Boating.

FOR SALE—Cruising houseboat, 66x16x3. Was thoroughly overhauled and rebuilt this year. Two new Lathrop 40 H.P. motors installed at a cost of \$3,500. Speed ten miles. Entire new outfit of bedding, mattress, new galley stove, silver, dishes, etc. Accommodations not equalled by any boat her size afloat, with four double and one single staterooms, running water, and dresser in every room, 2 baths, and 3 toilets, social hall and dining room. New batteries. Sacrifice \$5,000. Mitchell, 421 West 55th Street, New York City.

FOR SALE—Fay & Bowen Two Cylinder Marine Engine complete with Shaft, Wheel and Reverse Mechanism. Engine is in exceptional condition (good) mechanically and is suitable for Auxiliary Power or for Hulls up to twenty-five feet in length. Price Crated F. O. B. \$75. F. G. ALLEN, 78 Genesee Street, Auburn, N. Y.

50 H.P. Kermath, electric starter and generator, double ignition, built-in reverse gear, etc., complete—run less than fifty hours. Rebuilt and guaranteed. A bargain. BRUNS KIMBALL & CO., 50 West 17th Street, New York City.

TWO COMPLETELY over-hauled Model M Speedway Eight-Cylinder Engines—200 Horsepower each. Equipped with new Bosch Magneto and Delco Coils. Can inspect any time. Price, \$1500.00 each, \$2500.00 pair. Bryant. Phone Ashland 8970.

**SACRIFICE FOR CASH**

TWO (2) Standard U. S. Navy Steam Launches, 36' long, 9' wide, 3 1/2' draft, complete with fore and aft compound Navy engine, 4 x 8 x 6, and Ward Watertube Boilers and pumps. Boats in excellent condition. Very little used. Ideal for work or fishing boats. Cost government over \$15,000.00 to build. Our price while they last is \$2,000.00 each. Photograph will be sent on application. Boats completely overhauled and painted.

Phone: Broad 3187

**ECONOMY STEEL & TOOL COMPANY**

80 Pearl Street, New York, N. Y.

When writing to advertisers please mention **MoToR BOATING**, the National Magazine of Motor Boating, 119 West 40th Street, New York

## THE MOTOR BOATING MARKET PLACE

The rate for "For Sale" and "Want" advertisements is 8 cents per word, minimum \$2.00. If an illustration is used, the charge is as follows, which includes the making of the cut:

Cut one inch deep, two inches wide..... \$9  
 Cut 1 1/4 inches deep, three inches wide..... \$12  
 Cut 2 1/4 inches deep, four inches wide..... \$20  
 Cut 3 1/4 inches deep, six inches wide..... \$25

Classified advertisements set entirely in small light face type. No extra charge for capitals. Bold face type used at display rate, \$12 per inch, single column. New advertisements can be accepted up to twelfth of month for following issues.

### Opportunities for the Motor Boatman

Before you buy or before you sell examine the exceptional buying and selling opportunities under this heading. They comprise the best offers of the month. Please mention MoToR Boating.

MoToR Boating, 119 West 40th St., New York

## SPORTSMAN'S PARADISE

Less than 50 miles from Philadelphia,  
on navigable stream.

In South Jersey, easily reached from Philadelphia, over fine auto roads also, is this remarkable protected tract of a thousand acres. A natural game preserve. Rabbit, plover, quail and pheasant in abundance; as well as fishing and boating; property one quarter in fine woodland noted for deer in generations past. Two fine duck ponds, and a stream—navigable by house-boats and 75-ft. yachts

—emptying into the Delaware Bay, only three miles away. Good bathing.

Buildings include substantial Colonial house constructed in 1781 and care-taker's quarters. Price exceedingly attractive; maintenance expense readily covered by income from fertile farm portion of property. All details on application to

Wm. Wheatley, Box M, Elmer, New Jersey

### FOR SALE

Three hundred H.P. Murray-Tregurtha, 1650 revolutions. Engine complete. A-1 condition. Used very little. Can be tested on stand before purchase. Engine not used over thirty hours since purchase. Owner installing two new engines in boat reason for selling. Cost new approximately seventy-five hundred dollars. Can be bought reasonable. Box 147, MoToR Boating.

**A REAL BUY:**—Several different sizes in 6-12-24 and 32 volt genuine Edison nickel-iron non-acid rechargeable storage batteries purchased from the government and other large users at 1/5th their original cost. Guaranteed perfect and look equal to new. Built like a watch. Do not sulphate or lose their charge standing idle. May be left in any condition, overcharged and complete short-circuited with no harm. Write now for free literature and end your storage battery problem for years to come. Address B. I. Smith, 31 Washington Ave., Danbury, Conn.

**WANTED** August delivery near New York, 28 to 34 foot raised deck or hunting cabin motorboat; state particulars, giving builder, engine, speed, send photos, also lowest cash price wanted. C. W. Gardiner, 219 Harrison Street, Brooklyn, N. Y.

Inventor of and holder of Patent rights in the United States and Canada for new Safety Propeller Device for small boats, will sell the U. S. rights on easy terms to right party. Address W. J. TURNBULL, P. O. Box 2437, North Vancouver, B. C., Canada.

### FOR SALE

18-Foot Yacht Launch, cedar planking and mahogany trimmed, built 1923; forward and after cockpit; 4-cylinder, 25 h.p. Scripps motor, with self-starter. Will sell at a low price. Can be seen at Consolidated Shipbuilding Corporation, Morris Heights. Apply to John Bossert, 1335 Grand Street, Brooklyn.

### Whatever Your Question

Be it the pronunciation of vitamin or marquisette or soviet, the spelling of a puzzling word—the meaning of overhead, novocaine, etc., this "Supreme Authority"

#### WEBSTER'S NEW INTERNATIONAL DICTIONARY

contains an accurate, final answer. 407,000 Words. 2700 Pages. 6000 Illustrations. Regular and India Paper Editions. Write for specimen pages, prices, etc., FREE Pocket Map if you name Motor Boating. G. & C. Merriam Co., Springfield, Mass.

**FOR SALE**—26' runabout, Continental 6 cyl. 58 H.P. motor. Complete electric and other equipment. A fine running boat. Speed, 1 to 20 M.P.H. Price, \$450. For details write James B. Robinson, Owasco Road, Auburn, N. Y.

**WANTED**—Mathis power houseboat—52 ft.—must be bargain for quick sale. Write Wm. Eldridge, General Delivery, Jackson, Mich.

**BARGAIN** in 55' work boat with 60 H.P. Wolvenine. Write or Wire, A. M. DEERING, 1642-53 West Jackson, Chicago.

**WILL PURCHASE** fast runabout, 25 M.P.H. or better, slightly used boat only. Spot cash for good proposition. Room No. 5, Huguenot Trust Co. Bldg., New Rochelle, N. Y. Tel. 3300.

**FOR SALE**—Very fine 35-ft. glass cabin cruiser, 10 M.P.H., 16 H.P. Globe motor, perfect condition, flush deck fore and aft, oak trunk cabin, 6 ft. headroom, 4 transoms, corduroy cushions, velvet carpet, first-class mirrors, dining table, glass racks, lavatory, washstand, running water, galley and engine room fully equipped, built-in refrigerator and water cooler, copper screens for all openings, steer from aft deck and forward cabin, electrically lighted throughout, generator, storage battery and searchlight. Cost over \$6,000, insured for \$2,000. Owner leaving city, will sell for \$2,000. Boat at Atlantic Hotel, Broad Channel, L. I. Phone: Franklin 5477, or Box 150, MoToR Boating.



**FOR SALE**—Hacker 35-ft. mahogany V-bottom runabout, double planked, 450 H.P. Strasburg-Wilson Liberty. Speed, 45 M.P.H. Finish like new. Has had only four months' service. H. Du Charne, 2129 First National Bank Bldg., Detroit, Michigan.

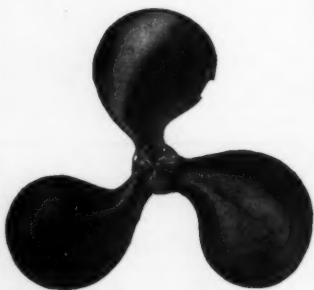
**FOR SALE**—38-ft. raised deck-trunk cabin cruiser, 2 years old; speed, 11 1/4 M.P.H.; good sea-boat; will sell very reasonably or accept a smaller boat in trade. E. Browne, Box 135, Michigan City, Ind.

**FOR SALE**—26' x 6'-6" Mahogany Yacht Tender—Consolidated Built—Cedar Planked—40 H.P. Converted Pierce Arrow Motor. Electrical equipped—Speed 16 M.P.H. Copper Tanks inside and cannot sink. Fully equipped and ready to run. Guaranteed perfect inside and outside. Many extras. Owner hurt and cannot use same. First \$1500.00 takes her. Hull alone cost \$2800.00. Can be seen any time of day. JOS. KOLINSKY, 508 East 73 Street, New York City. Phone Butterfield 3309.

**WANTED**—A yard superintendent to take charge of a growing boat building concern. Fine opportunity for the right man. State experience in first letter. Box 151, MoToR Boating.

Efficient Dependable Durable For Over 20 Years

## HARTHAN —TRUE-SCREW— PROPELLERS



Intelligent advice from our Service Department is free and prompt. Fill out this coupon today →

IMMEDIATE SHIPMENTS—NO DELAYS

NEW MANUFACTURED BY  
MARINE EQUIPMENT & SUPPLY CO.  
117 Walnut Street, Philadelphia, Pa.

Water line length.....  
 Beam .....  
 Construction (light, heavy, med.) .....  
 Make of engine.....  
 H.P. ....R.P.M. ....  
 Present speed .....  
 Present wheel .....  
 Present R.P.M. ....  
 Name .....  
 Address ..... MB

# REBUILT ENGINES

We are often asked the question, "Can a rebuilt engine be made to run as good as a new one?" We answer that an engine rebuilt as thoroughly and as honestly as we do it will, without any question, give the same service, reliability and economy as the new.

Every rebuilt machine sold by us is guaranteed and the price saving runs from 40% to 60% of the new cost.

Put your engine problem up to us.

## BRUNS KIMBALL & CO., Inc.

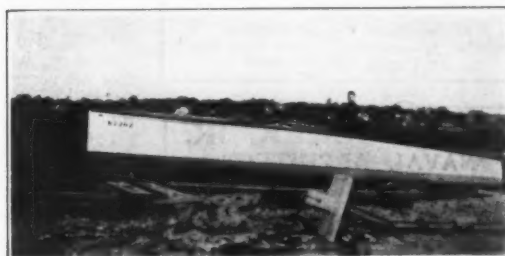
ORIGINATORS OF THE REBUILT ENGINES

Main Office and Showroom  
50-52-54 West 17th St., New York City

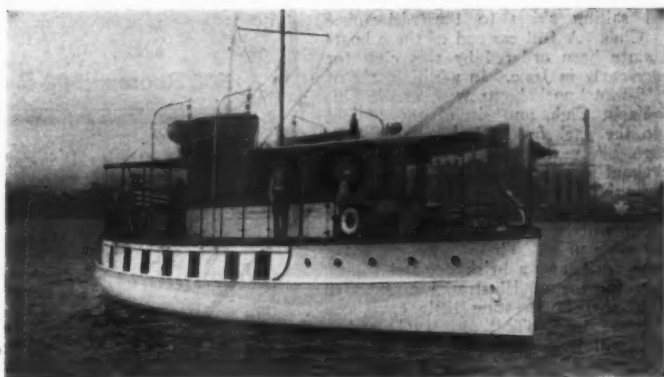
Branch  
102 South 4th St., Philadelphia, Pa.



FOR SALE—Cruising semi-house boat, 45'x12'x3'6", new 1924, concave V-bottom; engine new 1925, latest model, 5½x6, four-cylinder Palmer; speed, 10 miles; separate 32-volt electric plant, 2 staterooms, main cabin, engine room, galley, 2 toilets, and pilot house with all engine controls. Boat too large for owner, will take as part payment good 36' bridge deck cruiser. C. GRECHT, 1330 S. Sharp St., Baltimore, Md.



FOR SALE:—LAWLEY built 33' x 6' 6" x 1' 5" draft runabout, new 1920. Auto control. First Class condition. Six cylinder 290 H.P. Special Six Sterling Dolphin, new August, 1924. Used about twenty hours. Owner's plans prevent using this season. For quick sale \$3500.00 complete. Engine alone cost \$4500.00. Inspection by appointment at Northport, L. I. Speed 40 Miles. Phone Prospect 9704.



## For Sale or Charter

This fully equipped and especially built, 65' x 16' 10" x 3' 6", Mathis houseboat is available for four months' charter. Has every modern convenience one could wish for on a boat, electric lighted throughout. Excellent sea boat and economical to operate. Two Standard engines give her a speed of 10-11 miles an hour. This is an opportunity you should not pass up. Apply to Box 149, MoToR BoatinG.

Four cyl., four cycle, with reverse gears—Clifton 8½ x 11, \$750. Buffalo, 5½ x 7, \$850. 5¼ x 7 Miller, \$450. 5 x 6 Van Blerck, \$255. 3 x 7 Wisconsin, \$365. 4¼ x 6 Doman, \$315. New 5¼ x 7 Model, \$425. 4 x 4 Kermath with electric starter, \$345. 3½ x 4 Model Z Gray with electric starter, \$285. 4¼ x 5 Truscott, \$235. Universal 2½ x 4, \$185. New Erd tractor 4 x 6, \$235.

Eight cyl. 5¼ x 6½ Van Blerck, \$550. 5¼ x 5¼ Sterling six, \$485. 3 cyl. 7½ x 8¼ Wolverine, \$485. 6 x 6 Truscott 3 cyl., \$265. 4¼ x 6½ Doman, 2 cyl., \$225. Anderson 14 h.p. 2 cyl., \$275. 7 h.p. Frisbie 1 cyl 6 x 6, \$165.

Two cycle engines: 75 h.p. 6 cyl. Fox, \$275. 3 cyl. 5 x 5 Vim, \$185. 3 cyl. 5 x 5 Ferro, \$175. 3 cyl. Gray Model T 4 x 4, \$145. 3 cyl. Fairbanks-Morse 4¼ x 4¼, \$95. 3 cyl. 4 x 4 Pierce Budd, \$225. 4 cyl. Waterman 2½ x 3, \$135. Erd 10 h.p. 2 cyl., \$70. Motorgo 6 h.p. 2 cyl., \$65. 1 cyl. 5¼ h.p. Ferro, \$45. Small outboard and inboard motors, \$30 to \$50.

BADGER MOTOR COMPANY  
Milwaukee, Wis.

Bargains: Rebuilt marine engines. One to 6 cylinders. Motor and row-boats we have taken in trade. Send for list. Dept. "D," Everett Hunter Boat Co., McHenry, Ill.

For Sale: Runabout Panhard, Mississippi Valley Champion 1921. Electric Starter, etc. Ready to run. Also motors, all kinds, 25 to 40 Horsepower, including Erd 30 Horsepower. F. T. Holiday, Indianapolis, Ind.

HIGH SPEED MOTORS FOR SALE. W. C. WOOD COMPANY, 528 UNIVERSITY AVE., S. E., MINNEAPOLIS, MINN.

FOR SALE: Twenty-eight foot Elco Runabout, equipped with one hundred horsepower Hall-Scott motor and self-starter. For particulars write Waldo C. Johnston, Agent, Cooperstown, New York.



## NAVAL ARCHITECTS & YACHT BROKERS

**Thomas D. Bowes, M. E.**  
 NAVAL ARCHITECT AND ENGINEER

Offices:  
 Lafayette Bldg., Chestnut and Fifth Sts.  
 PHILADELPHIA, PA.

## COX & STEVENS

Naval Architects and Engineers  
 Yacht Brokers

25 Broadway, Cunard Building  
 (Morris St. Entrance), New York City  
 Telephone: 2700 Whitehall

**S. S. CROCKER, JR.**  
 NAVAL ARCHITECT  
 and YACHT BROKER

Expert Supervision of Construction  
 Tel. Main 0285

333 Washington St. Boston, Mass.

**William H. Hand, Jr.**

NAVAL ARCHITECT  
 NEW BEDFORD, MASS.

**HAND-V-BOTTOM DESIGNS**

Every design, now as always, my personal work  
 Send stamp for catalog illustrating forty-three  
 typical Hand-V-Bottom designs

**THOMAS S. HANSON**

Formerly General Manager, The Elco Works,  
 Bayonne, N. J.

**Yacht and Motor Boat  
 Brokerage**

19 West 44th Street New York  
 Telephone: Murray Hill 8678

## HACKER AND FERMANN, Inc.

We are prepared to design any  
 type of craft. Sketch Plans  
 to meet most requirements.

John L. Hacker Wm. E. Fermann  
 Edgewood 4119

Investigation Brokerage  
 Insurance  
 Naval Architects and  
 Engineers

6304 East Jefferson Avenue  
 EDGEWOOD 4119  
 DETROIT MICHIGAN

## WALTER COOK KEENAN

NAVAL ARCHITECT

802 Liverpool & London & Globe Bldg.  
 New Orleans, Louisiana

Sell and power yachts. Houseboats and  
 commercial vessels. Surveys made in all Gulf  
 Ports.

I have a large number of yachts of every  
 description for sale, and some for charter.  
 Cable address: "Walkeen"

## Yard and Shop

(Continued from page 48)

### Amateur Photographers —Attention

The Johnson Outboard Motor Company, South Bend, Ind., recently announced the launching of a prize photographic contest in which valuable cash prizes will be distributed. There are to be two classes, one for amateur photographers and another for dealers and professional photographers. First prizes in the amateur class will be \$100, with others \$50, \$25 and \$10. The prizes in the dealer class will be similar, with the first prize of \$50. The contest will be open to everyone, since it is the picture which counts. The Johnson outboard motor must be featured, showing clearly the type of motor used. Action pictures will prove the most interesting. Photographs should be of the 3-A size, or larger, and as many can be submitted as desired. Five dollars will be paid for each photograph which may be used, but which does not necessarily win a prize. The contest will continue until September 15. Keep your eyes open, your camera handy, and get your pictures in early. The judges for the contest will be W. H. Dilg, President of the Izaak Walton League of America; C. D. Kaufman, Chicago, and Ivar Hennings, South Bend, Ind.

### Small Boats Are Exceed- ingly Popular

The Cape Cod Shipbuilding Corporation, Wareham, Mass., broke all records for weekly shipments recently, when they shipped fifty of their standardized craft to various sections in that period. There were eleven of their 18-foot baby knockabouts delivered to the Cohasset Yacht Club, as well as twelve of their 14-foot decked sailing skiffs to the Milwaukee Yacht Club. A full carload of these boats have since been ordered by this club for delivery early in June. In addition, six of their 15-foot knockabouts went to the Chicago Yacht Club, and six of the 18-foot size to the Jackson Park Yacht Club of Chicago. A new one-design 21-foot keel knockabout has been completed and will be on exhibition in Marblehead Harbor during the summer. If demand develops for it, it will be standardized and sold at a reasonable price. These boats are heavy weather craft, and a brisk demand should develop for them. Illustrated catalogs of most of these interesting little craft can be obtained by MoToR BOATING readers if they will write to the Cape Cod Corporation, at 18 Tremont Street, Boston, Mass.

### R. W. Zundel Expanding

The R. W. Zundel Company, Inc., of 47 Whitehall Street, New York, N. Y., have found it necessary to increase the facilities of their sales and stock departments, and an entire additional building is to be taken over and converted for their requirements. This addition will double the size of their present establishment, and give them an additional entrance on Front Street. The exceptionally large and complete stock carried by Zundel consists of thousands of individual items, and these make it necessary to provide additional space in order to keep them properly. In addition to the active retail business, the Zundel Company does a large wholesale and mail order business to the marine trade in the East, as well as to the dealers in the general

## FREDERIC S. NOCK, INC.

Naval Architects and  
 Yacht Builders

EAST GREENWICH, R. I.

STORAGE MARINE RAILWAY REPAIRS

## JOHN H. WELLS, INC.

NAVAL ARCHITECTS

Service that's different

BROKERAGE SUPERVISION

Telephone: Murray Hill 3128-7

347 MADISON AVE., NEW YORK



## HOTEL WOLVERINE

Make Reservations Now  
 for the GOLD CUP RACES

YOU will be pleased with the convenience to all amusements—the fine meals—the bright, pleasant rooms, all outside with bath—and the spirit of hospitality of HOTEL WOLVERINE—Detroit's famous popular-priced hotel.

MARCUS L. FREUD, President.

At Elizabeth Street East  
 and Woodward Avenue  
 in the Heart of  
 DETROIT

500 Rooms—500 Baths

vicinity of New York. It is expected that the new facilities will be ready for the fall rush.

### Evinrude's New 1925 Champion Sport Twin

The greatest Evinrude ever built is the way authorities at the Evinrude factory characterize the new 1925 Champion Sport Twin. This motor and every part in its makeup has been thoroughly proven by actual advance outdoor tests all over the country as well as by grueling tests applied in the Evinrude factory. So there is evidence behind their claim for the new 1925 model.

Among the exclusive features of this new outboard is the Automatic Instantaneous Reverse which provides this model with an enviable reputation for quick maneuvering. Just a lift of the tiller and immediately the Evinrude-equipped boat goes astern. Depress the tiller and again the boat speeds forward. Motor need not be moved even a fraction of an inch, nor does its running adjustment require the slightest change. Full reversing control without taking your eyes off the course ahead. This feature is especially valuable when approaching docks or piers.

(Continued on page 98)



GRIM reality fades away like the dim skyline of New York in this picture, when you're skimming along in a high powered motor boat. Nothing matters, nothing bothers, nothing counts but the supreme thrill of the moment.

This particular boat is Norman Woolworth's Super Bearcat "Bobbie," Hall-Scott powered of course, inasmuch as Hall-Scott Marine Engines are standard power equipment for Bearcats. "Bobbie" has the 200 H.P. Model LM-6, 1925 series, conceded to be the last word in marine power plants.

Runabout speeds of twenty to forty-five miles, and cruiser speeds of fifteen to thirty-five miles per hour, are both practical and common in Hall-Scott powered boats. Such speeds are obtained with the engines turning 1500 to 1800 r.p.m.'s with the same dependability that you are accustomed to associate only with engines built to operate at 500 to 1000 r.p.m.

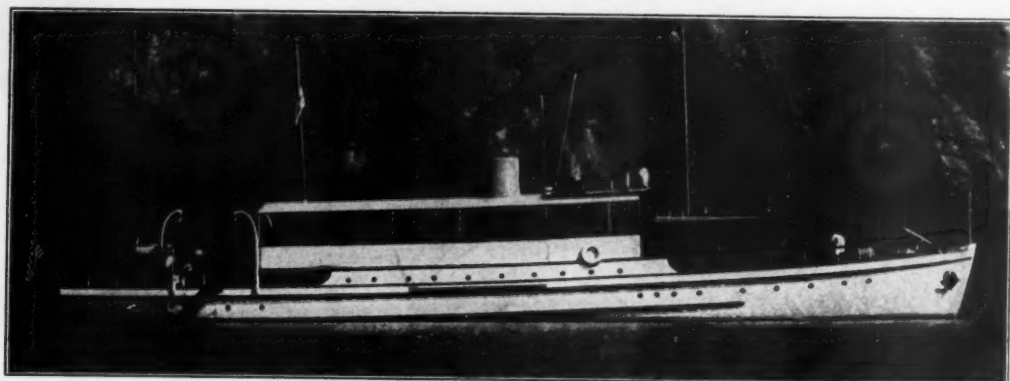
If you are interested in a dependable fast boat, let us give you detailed facts regarding the design, dimensions, speed and service of many Hall-Scott installations that have proven the unvarying success of these engines.

**HALL-SCOTT MOTOR CAR CO.**  
**EASTERN BRANCH: 461 EIGHTH AVE., at 33RD ST., NEW YORK, N. Y.**  
Factory: Berkeley, California

**LM SERIES**  
(Lubricating Type)  
Bore 5", Stroke 7"  
Four Cylinders, 135 H. P.  
Weight 1165 lbs.  
Six Cylinders, 200 H.P.  
Weight 1500 lbs.

**HSM SERIES**  
(High Speed Type)  
Bore 4 1/8", Stroke 5 1/2"  
Four Cylinders, 90-70 H.P.  
Weight 1290  
Six Cylinders, 75-100 H.P.  
Weight 1590 lbs.





## For Quick Sale—No Reasonable Offer Refused

### TWIN SCREW DIESEL MOTOR YACHT 110'x105'x15'7"

Speed ten miles, built 1917, extra heavily and well. Altered and reconditioned 1923. Thoroughly sound, fully found and equipped. Teak deckhouses and trim. Accommodations: Owner's; above and below deck saloons with six berths, two double, one single stateroom with double bed and five berths; three toilets, one with tub, one with shower. Crew's; captain's and engineer's staterooms, four berths forecabin, toilet with shower. Mess room, large galley, storeroom and icebox. Hot and cold water under pressure throughout. Hot water heat. 110 volt electric system operating lights, searchlight, windlass, Sperry Gyroscope stabilizer. Large water and oil tankage. Intercommunicating telephone. Ice plant. Inspection at Seattle, Washington. Write for specifications and make your offer to owner. Wm. B. Lloyd, 30 N. Dearborn St., Chicago, Ill.

### *Rabbets in Stem and Keel*

(Continued from page 43)

these at as many horizontal and vertical planes as may be necessary. Where the change of rabbet angle is gradual, the guide cuts may be made farther apart than where there is a quick change of angle, as where the end of garboard and adjacent plank ends run up into the stem. In making the templets, allow for the plank thickness so that the inner and outer edge of the plank may be accurately determined.

Then with a scratch-awl mark the rabbet lines on the boat framework. This may be done before the parts are set up and fastened together. Mark the line of the inside and outside edges of the planks as determined from measurements taken from the full-scale lines. If the inside edge of garboard is level with top edge of keel, only the line of the outside edge need be determined. The rabbets are usually cut so that the plank ends and edge of garboard will be cut square.

Having marked in the rabbet lines, mark off the horizontal sections on the stem and vertical stations on keel and at each mark make a guide bevel with narrow chisel, according to the templet made for that particular position. Take care not to get the templets mixed, by marking or stamping them as made; also numbering or otherwise marking the line drawing to correspond. Be sure the guide bevels are accurate to the templets; then proceed to cut away the spaces between. H. H. P., Los Gatos, Calif.

### *Starting Correctly to Cut the Rabbet*

**I**T is usual and proper to cut the rabbet in the stem and keel before setting up, providing the boat's lines have been laid down full size and faired up, in which case the two lines, the rabbet and bearing line, and waterlines can be transferred from the molds to the stem and keel, which simplifies the work of chiseling.

If the lines are not understood and you cannot figure from them, the operation is slower, as the rabbet cannot be cut until the keel is laid, and the stem molds and transom set up. Then after running ribbands from stem to stern, the rabbet in the stem can be determined and cut by bending a batten around the molds.

To find the rabbet and bearding in the keel and to tell how much it must be cut, take a piece of the proposed planking or

a piece of pine of the same thickness about one inch wide and four or five inches long for a gauge. Bevel one end, as shown, about  $\frac{1}{8}$  inch to a thickness of one inch. This is done to facilitate fitting the garboard strake, making it close in tight.

Now hold this gauge flat against the mold and slide it down against the keel. Begin chiseling at the rabbet line to the bevel of the gauge and cut from the bearding line until the gauge fits in the rabbet. By chiseling out at each mold so that this gauge fits properly against keel, you have several spots to guide you. Now tack a batten so that it will run from spot to spot in a fair line and draw a pencil line to these and proceed with the cutting.

The manner of determining and cutting the rabbet in the deep keel, which extends up inside the planking, and has a solid rabbet, and the other type which extends flush with the lower edge of garboard strake and has its top edges beveled for rabbet, is the same as previously explained, with a wood gauge.

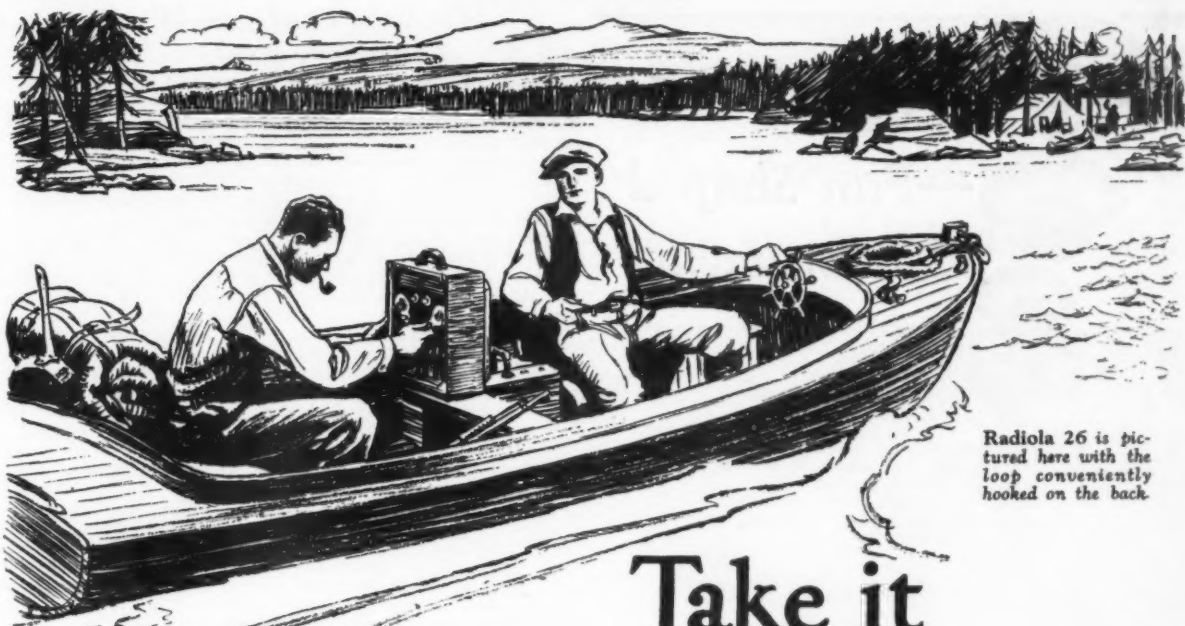
Cutting the rabbet is not hard work, but is chisel work, and the chisel, more than any other tool, calls for patience. Don't get impatient and try strong-arm stuff with the mallet, for the chances are you will ruin the stem and keel. When cutting, it is safer to leave the rabbet a little full by not cutting to the full depth, for a shaving can easily be sliced off, but it is a boat building sin to have to put a shim to fill up where the rabbet has been cut too deep.

Now to cut the rabbet so true that it receives the planking perfectly is a nice job for the professional builder, much less the amateur; however, if the instructions are carefully followed, the cutting will be done in a workmanlike manner, and still be executed in the home shop. In the modern boat shop the boat's lines are laid down on the mold loft floor, as was said at first, and the lines taken off and the rabbet cut before assembling.

J. C. H., New Bern, N. C.

### *A New Ocean Race*

The Sheepshead Bay Yacht Club, under the command of P. J. Downey, Jr., its active Commodore, is arranging an interesting Ocean Race to be held on September 3, 1925. This event will be over a course of fifty nautical miles in length, and will be on the open ocean near the New York entrance. This will be open to cruisers and fast cruisers as defined by the 1925 rules of the American Power Boat Association, and the race will be handicapped according to the same rules. The Chairman of the Regatta Committee, Chester Probst, has announced that Captain



Radiola 26 is pictured here with the loop conveniently hooked on the back.

## Take it wherever you go!

Take it aboard—on every trip. Take it ashore when you land awhile. Take it home again for the between-trip days. Wherever you go—close up your portable Radiola Super-Heterodyne and take it with you.

It needs no attachments or installation, and is ready always to tune in—ready to get distance—to give *quality* reception. The loop is in the cover, the loudspeaker is built-in, and there's space inside for the batteries. It is the same ol' famous "Super-Het" ready for more fun than ever. It is *portable* now!

Chicago

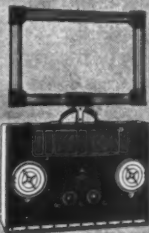
Radio Corporation of America  
New York

San Francisco



# Radiola

AN RCA PRODUCT



**Radiola 24**  
Built in a suitcase of black cowhide, cobra grain. Open ready for use. And closed for carrying. With 6 Radiotrons U-V-199 \$195



**Radiola 26**  
Finished in Walnut. Complete for carrying. And with an extra battery cabinet for home use. With 6 Radiotrons U-V-199 - \$225



When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York





## WESTON

### —Fan Shaped Instruments

These models 267, 269, 271 and 273 are regularly made as Ammeters, Milliammeters, Voltmeters and Millivoltmeters with scale lengths of 2.5 in., 4 in., 6 in., or 7.6 in.

**FOR** Marine use these models possess unusual elements of design over and above the remarkable precision and stamina for which Weston has become a by-word wherever electrical measurement instruments are used.

For instrument boards aboard ship the "fan-shaped" types make an extremely handsome mounting with only a slight projection of the case from the panel, and the scales are remarkably easy of reading—the longest to be found in any instruments of their size.

There is a choice in size which makes it possible to make an installation of "fan-shaped" instruments under practically any condition afloat and the fact that these instruments are shielded from the effects of external magnetic fields makes them the choice among marine architects.

For further information address

**WESTON ELECTRICAL INSTRUMENT CORPORATION**  
 28 Weston Avenue, Newark, N. J.



STANDARD THE WORLD OVER

# WESTON

Pioneers since 1888



## Make the Outboard Work

(Continued from page 45)

position where it is accessible. The flywheel of these engines travels at a rapid rate, and a flat belt operating on the rim, or a round belt operating in the starting cord groove, offer the simplest means of attaching and detaching any other units.

A generator of generous size can be readily driven by means of a belt in this way, and its power transferred to the batteries, which may be kept on board the large boat by means of suitable lengths of wire, which can be led around corners and under and over obstructions without loss of efficiency. No other source of power can be transferred from place to place quite as readily as this. A boat can carry a storage battery of large capacity, and the current from this used for endless purposes and as wanted.

Electric fans can be used to keep the cabin cool on warm days or to remove the heat from the galley at meal times. A generous flood of light is available for the comfort of the passengers during the evening, and the radio set can be kept in proper condition by this same liberal electric current. The bilge can be kept free of water by means of a small electric motor-driven pump, which can be started and stopped without soiling the hands and clothing, by the simple operation of throwing a switch. In fact, this operation could be almost arranged to take care of itself by the adoption of a float switch, which would relieve the operator of all worries as to whether the bilge was dry or not.

A liberal supply of electricity can also be adapted to the purposes of the galley in providing heat for the use of such electric cooking devices as toasters, percolators, and small stoves. Naturally, these devices would need to be of the 32-volt type, in order to operate efficiently, although the engine would handle a small 110-volt generator with equal facility. These devices, however, are only made as standard in the 32 and 110-volt types. A battery of 32 volts' capacity is not an exceptionally large one, and can be readily carried on the average boat.

The operation of the outboard engine driving the generator for a few hours in the morning or afternoon would serve to keep the battery well charged, and in order to convert it back to its intended purpose, it would be merely necessary to attach the propeller again and slip the belt from the flywheel. This method would involve the least changing or altering to the machine, and always leave it available for propelling the boat on short notice.

T. B. K., Bronx, N. Y.

## New Portable Radio Set

The Radio Corporation of America have announced the distribution of a new type of portable receiving set, which is very compact and serviceable. It is designed around the super-heterodyne set, which this company has long featured, and is designated as Radiola 24 and 26. This equipment is quite suitable for use on boats, and is entirely complete and self-contained. It requires no installation and no connections. A number of changes and promotions within the organization of the Radio Corporation of America have recently been made, which will tend towards easier cooperation with dealers and distributors. H. T. Melhuish has been made Assistant Sales Manager, in charge of Sales Administration, and Meade Brunet was made Assistant Manager Sales in charge of merchandising. Quinton Adams will have charge of Field Supervision and E. A. Nicholas, M. S. Tinsley, P. G. Parker and A. R. Beyer have all been named District Sales Managers for the New York and Chicago districts.

**•A SUMMER HOME AFLOAT•**

**MATTHEWS "38"**  
STOCK CRUISER

**THE MATTHEWS COMPANY**  
PORT CLINTON, OHIO

Length 38 ft.  
 Beam 11 ft. o.s.  
 Draft 3 ft.  
 Accommodation,  
 four to seven  
 people.  
 Speeds, 12 to 20  
 miles.  
 Power, 50 to 200  
 h.p.  
 Sold complete, in-  
 cluding auxiliary  
 sails.  
**INFORMATION  
 ON REQUEST.**  
**MATTHEWS 46-  
 and 65-ft. STOCK  
 DESIGN  
 CRUISERS**

Over Thirty Years the Standard of Comparison in Excellence of Design and Construction

AN OPPORTUNITY FOR RESPONSIBLE DEALERS





# A High Power Marine Receiver

*Moisture Resisting — Corrosion Proof*

*Unaffected by Vibration*



**T**HE famous around-the-world 98 ft. yacht Speejacks now has the world's doings brought aboard through a Malone-Lemmon Marine Receiver, the waterproof and corrosion proof radio receiver designed particularly for pleasure boats and sailing yachts.

The Malone-Lemmon Marine Receiver is completely enclosed within a thoroughly waterproofed furniture cabinet. Every coil is individually waterproofed and sealed against corrosion. All of the finely constructed electrical instruments, every terminal and contact, are permanently protected against the possibility of damage by moisture or corrosion. It is this advanced construction that guarantees the Malone-Lemmon Marine Receiver will not be out of date for many years to come. Easily installed and as simple to operate as a phonograph.

You don't have to wait until the midst or end of the season for delivery. Sets are available now. Write at once for descriptive bulletin M.B., or phone our New York Office, Vanderbilt 9516.

## MALONE-LEMMON PRODUCTS, Inc.

130 Waverwood Place  
PLAINFIELD, NEW JERSEY

### SPECIAL REPRESENTATIVES:

**NEW ENGLAND:**  
WALTER H. MORETON CO.  
780 Commonwealth Ave., Boston,  
Mass.

**CALIFORNIA:**  
BANTA COMPANY  
Los Angeles, California

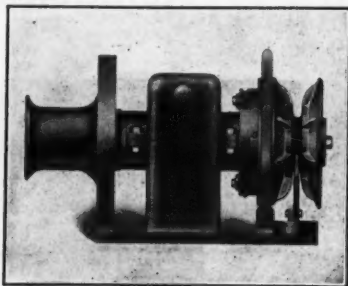
The chassis of the Malone-Lemmon Marine Receiver. All apparatus is mounted on metal cantilever suspension. Six tubes carried on rubber shock absorbers give tremendous volume with clear tone. May be used with either dry cells or storage batteries.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York

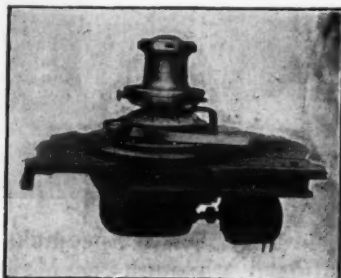
## A-E-CO

### Hand and Electric

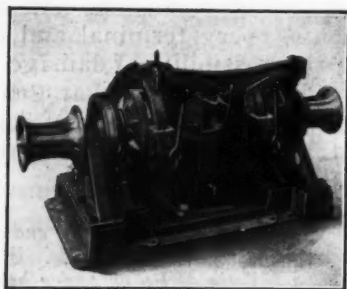
# WINDLASSES



**A-E-CO Hand Pump Brake Windlass**—For schooners and other boats where electric power is not available. An inexpensive machine, ruggedly built for long, hard service, yet surprisingly light and compact. Made for 3/8", 7/16" and 1/2" chain.



**A-E-CO Motorboat Electric Windlass**—Runs on storage batteries or smallest low voltage generators. Handles anchor, sail, small boats, lines, etc. Easy to operate—just step on the button and the windlass does the rest. Any boat owner can afford it.



**A-E-CO Electric Worm Geared Windlass**—For the larger yacht or houseboat. A self-contained unit easy to install. Powerful, durable and dependable. Heads can be operated independently of wildcats. Built in eight sizes. Also furnished with motor below deck.

For descriptions, illustrations, prices, etc., of our complete line of Hand and Power Windlasses, send for Yacht Section, Catalog 21.

**American Engineering Company**  
2419 Aramingo Ave., Philadelphia

## Radio on the Boat

(Continued from page 37)

Where the lead-in wire comes in through the deck it is advisable to install a regulation lead-in insulator. These devices may be secured in various sizes and by using a rubber gasket on each side, and then screwing the instrument securely in place, an absolutely water-tight connection may be made. Simply from the standpoint of preventing leaks through the deck, another of these insulators should be used where the ground lead is brought out, and if the two are placed rather close together, a lightning arrester may be connected between them as shown. The arrangement is, of course, optional, but as shown, only the minimum amount of wire will be used, and all of these exposed parts may be retained within a comparatively small area.

As for the ground connection, water is what really gives us an effective ground when ashore, and when afloat we have the very finest kind of a ground all about us. All that is necessary therefore is to secure some good connection with this water.

This may be accomplished in several ways. The regular engine ground may be used, in which case the contact will take place through the shaft and propeller. If a metallic rudder and shoe are used, these will make an excellent ground, but the best method seems to be to secure a good-sized metal plate to the outside of the hull, below the water line, to which the ground wire is attached.

In several installations, radio reception has not been possible when the engine was running, due, no doubt, to the fact that the engine formed part of the ground, and consequently the ignition system, acting as a small transmitter, set up sufficient interference to completely drown out the radio programs. From this experience it appears that an entirely separate ground should be used which should not be too near the engine, and, by the same token, the radio set itself should be removed from the vicinity. Many times the coils of wire inside of a set will pick up sufficient energy to cause interference. Notice in Fig. 1 how the set is kept as far away from the engine as possible.

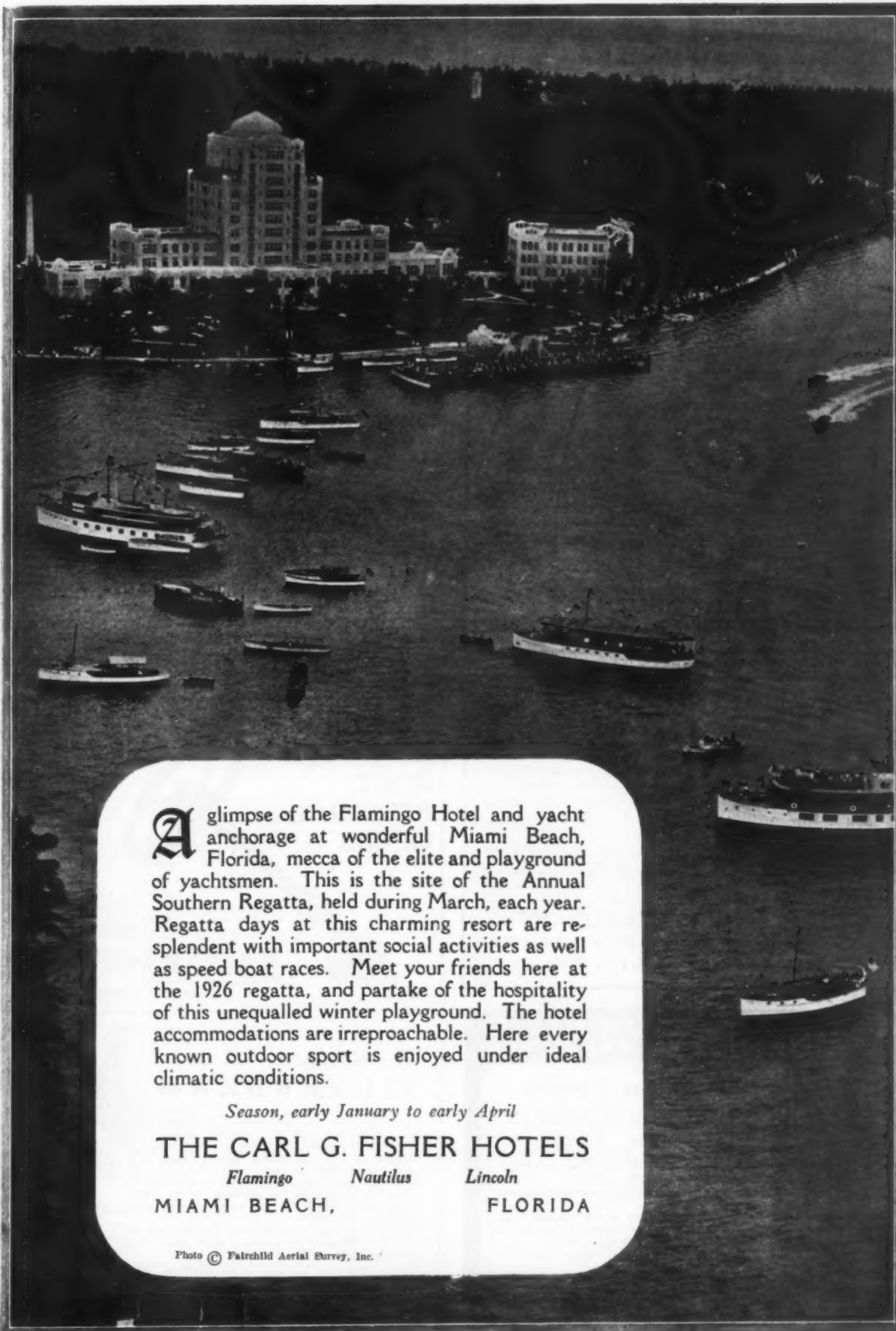
To return to the outside ground, attached to the planking below the water line, there are a few points which should be given careful consideration.

Combinations of certain metals in salt water will set up an electrolytic action which, in reality, is nothing more nor less than the chemical action of a small battery. Wherever electrolytic action starts a feeble electrical current is set up. In fresh water this is only true to a small degree, depending on the amount of impurities in the water, but where the water is really salt, the action is correspondingly stronger.

Now suppose that you were to attach a sheet of zinc to the bottom of your boat for a radio ground. If your boat used a bronze propeller or rudder the zinc plate would be eaten away in a very short length of time. Copper should be used to avoid this, but make sure that the copper plate is attached to the hull with copper and not galvanized iron tacks. Of course a wire has to be secured to this plate, and No. 14 bare copper will prove to be excellent. It is possible to mortise such a wire as this directly into the side of the hull, filling over afterward with putty and paint and completely concealing it. This wire runs from the copper plate to the ground lead-in insulator on deck and for obvious reasons it cannot very well be soldered to the plate. Make the contact, instead, with a brass machine screw, to which the wire is attached, and the whole affair tightened up through a small hole in the plate. This plate, by the way, should not be less than six feet in length and at least a foot wide. Sixteen gauge should prove effective. If it is painted over its effectiveness may be reduced somewhat.

Radio sets with self-contained or loop aerials are not always satisfactory, due, no doubt, to the directional effects of the aerial. Under conditions as they would be on a boat, a loop aerial would be quite directional and a change in course by the helmsman would necessitate a change in direction of the loop aerial in order to continue hearing the desired station. A small motor boat at anchor may swing considerably in the breeze or tide, thus making a constant readjustment of the aerial necessary. Of course these directional qualities may be used to good advantage provided cross bearings are to be taken and the exact locations of the broadcasting stations are known, but as a general rule radio is used for pleasure only and the directional effects will prove a detriment rather than an aid.

In subsequent articles, other phases of radio installations will be taken up, together with constructional data especially suited for marine work. A good radio set on the boat this summer will prove to be a distinct advantage in adding to the pleasures of the yachtsman, and with our present sensitive sets and high-powered broadcasting stations no difficulty should be experienced in securing really enjoyable programs even under fairly adverse conditions.



A glimpse of the Flamingo Hotel and yacht anchorage at wonderful Miami Beach, Florida, mecca of the elite and playground of yachtsmen. This is the site of the Annual Southern Regatta, held during March, each year. Regatta days at this charming resort are resplendent with important social activities as well as speed boat races. Meet your friends here at the 1926 regatta, and partake of the hospitality of this unequalled winter playground. The hotel accommodations are irreproachable. Here every known outdoor sport is enjoyed under ideal climatic conditions.

*Season, early January to early April*

## THE CARL G. FISHER HOTELS

*Flamingo*

*Nautilus*

*Lincoln*

MIAMI BEACH,

FLORIDA

Photo © Fairchild Aerial Survey, Inc.



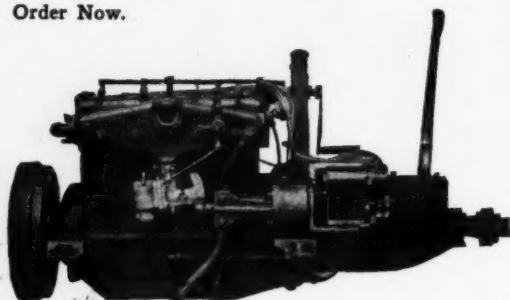
**NJM Offers the Most Attractive Easy Payment Plan Ever Offered to Marine Motor Buyers**

## Get in Line—Now. Immediate Deliveries

We make it easy for you to own an NJM.

Our low price and the deferred payment plan will enable you to enjoy the satisfactory performance, smooth, quiet running qualities of the NJM Motor while you are paying for it. Our greatly increased production prompts us to do this and you can benefit by it.

Order Now.



For the benefit of our NJM customers, we have installed a boat shop in which we install motors and make prompt repairs and give service to the NJM owners.

**NEW JERSEY MOTORS, INC.**  
KEYPORT, N. J.

Cable Address: "NUJERMO," Keypert Telephone: 179 Keypert

## For Permanency Use—



## KUHL'S ELASTIC SEAM COMPOSITION

**Five Colors**  
White, Gray  
Yellow, Black  
and Mahogany

Carried in stock  
by marine supply  
dealers, ship  
chandlers and  
hardware dealers.

**DINGHIES**, outboard motor boats and row boats get more rough and tumble use than most boats. Consequently craft of this type require a high-grade seam composition. A composition that will not only withstand abuse but also successfully resist the elements. Kuhl's Elastic Seam Composition will keep your boat leakproof for 10 years and more. It sets semi-hard, adhering tightly to seam sides. Never gets brittle. Retains its original elasticity for more than a decade. It gives with the bending and twisting of hull, compensating for the swelling and shrinking of planking.

Motor boats, yacht and ship builders, and the U. S. Government use Kuhl's products.

### OTHER KUHL'S MARINE SPECIALTIES

Elastic Flat Yacht White; Elastic Glazing Composition; Elastic Gloss Yacht White; Elastic Deck Varnish; Elastic Trowel Cement.

Write today for literature and prices

**H. B. FRED KUHL'S**

Sole Manufacturer Established 1889  
65th St. and Third Ave. Brooklyn, N. Y.



**Boat Builders  
Marine Architects  
Yachtsmen**

## AHOY!

**H**AVE you ever noticed how often you meet your fellow Yachtsmen and most of the prominent club members, at our friendly place of business?

Is it the large stock we carry, the low prices or the trained personnel?

Whatever the cause, we appreciate your patronage, and whether you call in person or use our net price catalogue and order your wants by mail, we will ever strive to give you the service that you would expect from a well trained crew, seasoned by years of experience.

**THE E. J. WILLIS COMPANY**

85 CHAMBERS STREET NEW YORK CITY  
Official Gov't Agent for Charts, Pilot Books, etc.

## WOOLSEY'S PAINTS & VARNISHES

### Tungspar Varnish



A Varnish for use in marine work or other purposes, either exterior or interior. Will not turn White.

Is not affected by water, either fresh or salt, hot or cold, nor by climatic changes. Cannot be equalled in quality.

Is on a par with Woolsey's other renowned Marine Products.

Use Also—Woolsey's Yacht Whites, Adamant Deck Paint or Copper Paints and be assured of complete satisfaction.

Quality Products Since 1853

**C. A. WOOLSEY PAINT & COLOR CO.**  
JERSEY CITY NEW JERSEY, U.S.A.

## KAINER IMPROVED BOAT STEERING GEARS



Note auto type steerer is adjustable to different angles, a new feature filling a long-felt want. Designed strictly for marine use, Kainer steers embody all improvements desired in an up-to-date and reliable steering gear.

Write for our special catalogue on our complete line of steering gears, universal struts, running light equipment, etc.

**KAINER & COMPANY**  
CHICAGO

761-763 Mather Street

## The Kaufman SILVERBEAM

A powerful electric searchlight, made especially for marine use. All brass, accurately machined and heavily nickel-plated. Thoroughly rust-proof.

Operates on 6 volt storage battery, using 30 candle-power nitrogen bulb. Projects the most powerful beam known for a light of its size. Indispensable for spotting buoys, landings, piers and anchorages as well as avoiding driftwood and rocks.

Swings in any direction or complete circle. Instantly detached for use as a work light. Also furnished with cabin control.

Prices.....\$8.00 to \$15.00

Sold by the best dealers everywhere. Write for Catalog No. 17

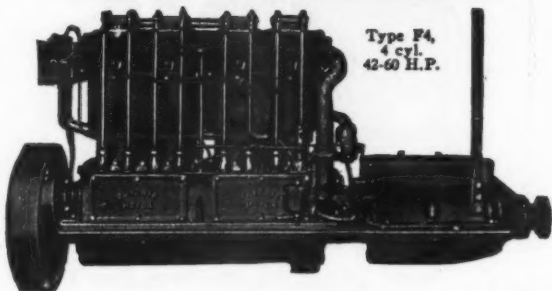
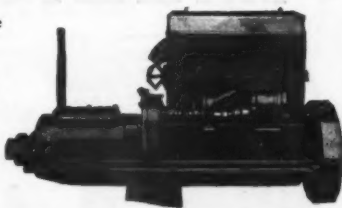
**CHAS. KAUFMAN & SONS, Inc.**  
Santa Ana, California



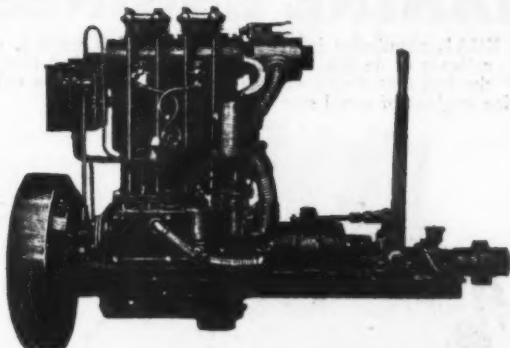


# FRISBIE VALVE-IN-HEAD MOTORS for Real Power

The New Type  
"S" Model  
Everybody's  
Power Plant



Type F4,  
4 cyl.  
42-60 H.P.



Type F2, 2 Cyl., 10-14 H.P.

The Frisbie Special  
Price \$475.00 Complete

Wonderful value at this price. Including Model A Schebler Carburetor, Atwater Kent Ignition, Paragon Reverse Gear, Force Feed Mechanical Oilier. A quality product at a quantity price.

## The FRISBIE MOTOR COMPANY

7 College St., Middletown, Conn.

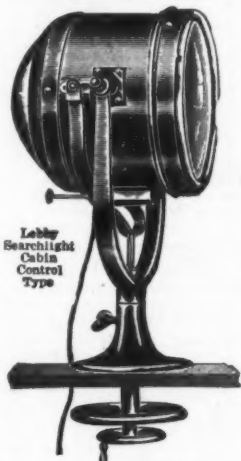


Manufacturers for over 20 years of overhead valve gasoline and kerosene engines for the propulsion of boats.

## LEBBY Incandescent Search Light

TRADE MARK REG. U.S. PAT. OFF.

### Points the Course to Safety



Lebbey  
Searchlight  
Cabin  
Control  
Type

THE Lebbey searchlight is a real searchlight. You can depend on it every time.

Picks up objects from one-third to one mile away. The Lebbey compensated mirror reflector with specially designed filament bulbs, projects more beam candle power per watt than any light projector in the world. Solid brass throughout. Finished in either polished brass, battleship gray, nickel plated or black nickel. Long service guaranteed under severe conditions.

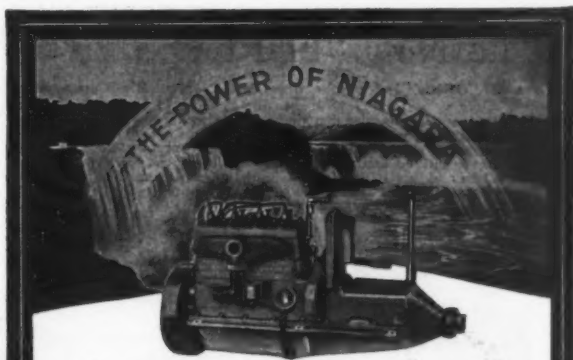
### Running Lights and Cabin Fixtures

We manufacture a complete line of running lights and cabin fixtures. Lights equipped without TRIPLEX LENS have the most powerful fresnel lens made. Write for catalog.

NATIONAL MARINE LAMP CO.  
FORESTVILLE CONN.



Single Wall or  
Bulkhead Fixture  
with Turn Switch,  
Edison base  
receptacle.



### The Six Niagaras

LOWER initial cost, lower maintenance cost, longer life, sturdier construction, sounder engineering principles and greater adaptability put Niagara Motors well in advance of marine engines of equal size and power.

#### NIAGARA MOTORS All four cycle type

Niagara Comm	5 H.P. for boats up to 20 feet
Niagara Special	15 H.P. " " " " 32 "
Model E-1	14 H.P. " " " " 35 "
Model E-2	35-35 H.P. " " " " 40 "
Model D-4	60-80 H.P. " " " " 55 "
Model D-6	100-120 H.P. " " " " 75 "

All of these models have an established reputation of reliability and durability as well as ease and quietness of operation. Each delivers its full rated power without strain or faltering.

Write today for catalog

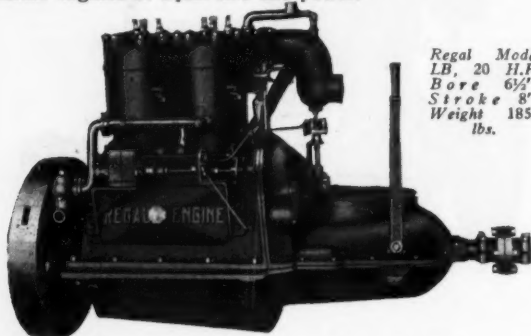
State power you are interested in and size of your hull

Boat Builders, Dealers and Agents—A popular motor is always the best seller. Niagaras are popular. Write today for full particulars.

NIAGARA MOTORS CORP.  
Dunkirk Box 300 New York

# REGAL MARINE ENGINES

**R**EGAL popularity is due not only to high quality, excellence of design, durability and economy, but also to the fact that Regal engines are lower priced than other marine engines of equal size and power.



Regal Model  
LB, 20 H.P.  
Bore 6 1/2"  
Stroke 8"  
Weight 1850  
lbs.

The latest Regal is a two-cylinder, 20 H.P. engine for heavy duty service. This model has the same standard of quality in materials and workmanship that has made Regal engines famous the world over. Force feed lubrication to all wearing parts. Tank in base holds four gallons of oil. Reverse gear is enclosed in oil tight housing. All bearings are accessible through large hand hole plates. The timing gears, too, are very accessible. This model Regal is available in single and double ignition.

There are seventeen other REGAL models, ranging from 2 to 100 H.P. Write today for details and prices.

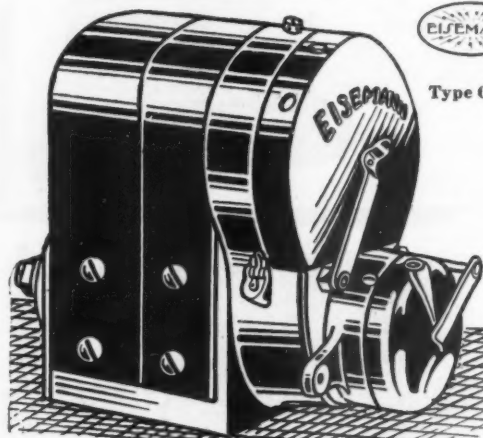
*Inquire about REGALITE, a 3/4 KW  
air cooled electric lighting plant for  
boats, homes and isolated buildings.*

## Regal Gasoline Engine Co.

74-82 West Pearl Street

Coldwater, Michigan

# The Predominant MAGNETO—



EISEMANN

Type G-4

EISEMANN MAGNETO CORPN.

General Offices: 165 Broadway, New York

Branches:

DETROIT

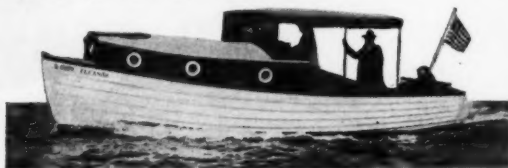
SAN FRANCISCO

CHICAGO

**EISEMANN**  
ELECTRICAL EQUIPMENT

# The New "FURNESS 25"

**A** RECOGNIZED leader in Class No. 1, standardized cruisers. Here is a sturdily built, seaworthy boat of handsome lines and wholesome accommodations; a real family cruiser. On this craft you will find all quality and no meaningless frills that boost production cost. It is the most remarkable cruiser value ever offered and has in back of it thirty years' experience of builders of good boats. A four-cylinder Kermath is regular equipment, giving a speed of 10 miles per hour.



## Ready to Cruise \$1695 F.O.B. Factory

You buy this craft complete, ready to cruise. The berths, 6 feet 4 inches, are built-in type and are fitted with green denim covered, comfortable mattresses. The galley is amidship. Other accommodations include toilet, icebox, mirror, clothes rack and plenty of shelf space.

### SPECIFICATIONS:

Length, 25 ft. 10 in. Beam 8 ft. 3 in. Draught, 24 in. Cockpit accommodates 9 persons. Speed, 10 M.P.H. Gas consumption, 1 1/4 gallons per hour. Gasoline capacity, 23 gallons. Motor, 12 H.P., 4-cylinder, Kermath with enclosed reverse gear. Bosch magneto with impulse coupling attached.

### EQUIPMENT:

25-lb. Galvanized Anchor. 50 foot. Anchor Line. Mooring Lines. Electric Lights in Cabin. 2 Life Preservers. Yacht Ensign. Fog Horn. Fire Extinguisher. Electric Signal Lights. Flag Poles. 6-Volt Storage Battery. Any desired name and registration number will be placed on the bow free of charge.

Terms if desired in New York and vicinity.

Write today for further information.

## FURNESS BOATS

SEA BRIGHT

NEW JERSEY

Telephone: 216 Sea Bright

# BUILT TO OUTLIVE YOUR ENGINE

All mica insulation and heavy nickel electrodes make yearly replacements of new plugs unnecessary.

Big brass jackets cannot rust into cylinder heads. Dependable in any weather.

After seasons of use Sootless Plugs can be rebuilt as good as new.

Prices consistent with quality. If your dealer is unstocked order direct.

Established Since 1902.

Agents:—A few territories are still open.

## OAKES & DOW CO., INC.

Mystic Avenue, corner Fellsway  
Winter Hill Boston, Mass.



# GET THE FACTS ABOUT THE EVERETT A HEAVY DUTY ENGINE FOR STRENUOUS WORK

Model E-24

24-30 H.P.

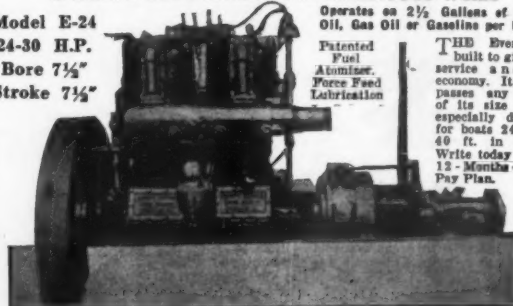
Bore 7 1/2"

Stroke 7 1/2"

Operates on 2 1/2 Gallons of Fuel Oil, Gas Oil or Gasoline per hour.

Patented  
Fuel  
Atomizer.  
Force Feed  
Lubrication

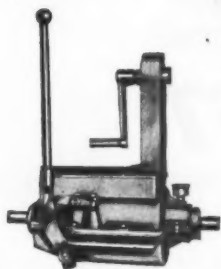
THE Everett is built to give long service and high economy. It far surpasses any engine of its size and is especially designed for boats 24 ft. to 40 ft. in length. Write today for our 12-Point Work-Pay Plan.



EVERETT BROS. MOTOR CO., BRUNSWICK, GA.

## SYRACUSE Reverse Gears

**The Improved Gear  
with a Rear Starter**



We make a special gear for converted airplane motors. We also make a special gear for International, Gray and Roberts Marine Motors.

We design and build special gears for manufacturers.

## Why It's the Best Gear for Your Motor Boat

It is adapted for use on all types and sizes of marine and converted motors.

It is one of the easiest clutches to install. You can install a SYRACUSE, yourself, in a very short time and save money.

The SYRACUSE Reverse Gear is smooth running, powerful and compact. It is enclosed in oil tight case, with rear starter integral, ball thrust control, lever and starting crank.

Ask your boat builder or marine accessory dealer for the SYRACUSE Reverse Gear, or send direct.

**SYRACUSE GEAR COMPANY, Inc**  
101 Grape Street  
Syracuse, N. Y.



# AUTOCHIME

*One of the 1,001 WC Products*

A deep-toned musical whistle for air or burned gas pressure. One of the sweetest-toned, yet most powerful whistles made. Its deep musical notes are blended and intensified by the megaphone effect of the patented cup-shaped bell surrounding the sound openings. Blows easily at low pressure. Look for name AUTOCHIME and WC trade mark on bell. Buy from your dealer. He can fit you out complete with AUTOCHIME, WC Whistle Valves and special fittings for attaching Whistle to smoke stack or deck.

**Get This Book of Helpful Hints  
for Motor Boaters**

"Sea Craft Suggestions and Supplies" solves those daily "puzzlers" that few know how to handle. Tells how to Box the Compass; what is Proper Ground Tackle; gives hints on Steering Gear, etc.; describes WC Dependable Marine Hardware; tells uses. Compiled from 75 years' experience in making marine fittings. Sent prepaid for 50c.

**Wilcox, Crittenden & Co., Inc.**  
(Est. 1847)  
4 South Main St., Middletown, Conn.  
*World's Largest Manufacturers of Marine Hardware.*








## CHRIS-CRAFT RUNABOUTS

Beauty of design, luxurious fittings, dependability and a guaranteed 35 M. P. H. speed are features of CHRIS-CRAFT ownership that provide new thrills and matchless pleasures for lovers of Water Sports.

CHRIS-CRAFT standardization makes possible immediate delivery from stock.

PRICE \$3200

CHRIS SMITH & SONS BOAT COMPANY

ALGONAC

MICHIGAN



True  
Screw  
Design

T & B

Peterborough Canoe Co., Ltd., Peterborough, Ont., Canada

### If You Are Interested in Propeller Efficiency You Should Know These Facts

B & B Speed Propellers for 23 years have always made good on our guarantee of one to three miles faster speed. B & B Speed Propellers although made of the finest grade steel bronze cost no more than ordinary bronze wheels. B & B Speed Propellers are distinctive in design, and there lies the secret of their speed increasing ability. The outer edge produces a forward thrust at all times with a minimum of slipping.

In addition to the B & B Speed Propeller we manufacture a turbine type propeller. Let us have your propeller requirements. We can make immediate delivery from our large stock.

Bryant & Berry Propeller Co.

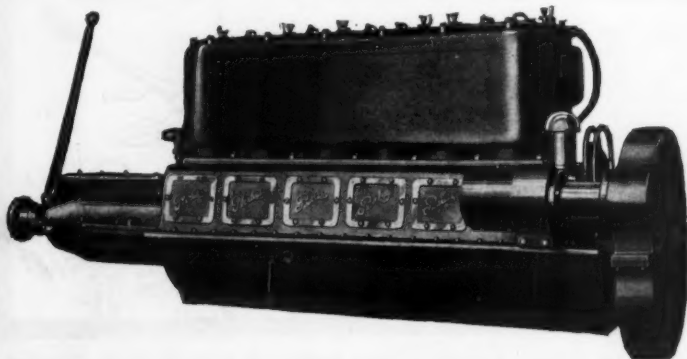
1222 Lillibridge Street, Detroit, Mich.



One-  
Three  
Miles  
Faster

B & B

New York Agents:  
E. J. WILLIS & CO.  
85 Chambers Street



## PEERLESS

### 4 CYL. MEDIUM DUTY

35 H.P. at 600 R.P.M. 70 H.P. at 1200 R.P.M.  
Price \$1400 Weight 1000 lbs.

### 4 CYL. SEMI HIGH SPEED

90 H.P. at 1450 R.P.M.  
Price \$1550 Weight 850 lbs.

### 6 CYL. MEDIUM DUTY

50 H.P. at 600 R.P.M. 100 H.P. at 1200 R.P.M.  
Price \$2000 Weight 1400 lbs.

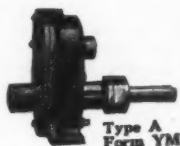
### 6 CYL. SEMI HIGH SPEED

140 H.P. at 1450 R.P.M.  
Price \$2200 Weight 1050 lbs.

Peerless Marine Motor Corp.

2150 Niagara St.

Buffalo, N. Y.



Hand Bilge Pump

## OUTWEAR YOUR MOTOR

**B**EFORE leaving the factory Oberdorfer Pumps undergo the most rigorous tests. Their construction and design provide for strength and simplicity. For all marine uses including water, oil or fuel supply. Housing shafting and gears are of non-corrosive bronze. Forms and sizes to meet all pump requirements.

Write for Bulletin "D" and name of nearest dealer.

**M. L. OBERDORFER BRASS CO.**

SYRACUSE, N. Y.

# Oberdorfer Pumps

Made of Bronze Throughout

## SKANEATELES

*"Boats that will last"*

### Outboard Motor Boats

Combining several important and essential features for use with outboard motors—

**Safety**—Broad on the water to give buoyancy, especially at the stern to provide for the weight of the motor. Also higher sides than in row boats to give safety in rough water and to carry heavier loads.

**Strength**—Tough, sturdy frame work, with reinforcing braces in right places to offset motor vibration. Planking riveted at ribs.

**Lightness**—Child can handle craft when motor is out. Boat is heavy only where heaviness helps.



### St. Lawrence Skiffs—Rowboats—Canoes—Dinghies—Sailboats

The Skaneateles St. Lawrence skiff is the easiest rowing boat in the world, strongly built and beautifully finished. It is the ideal boat for inland lakes, rivers or summer home. Fast, light and safe for the children.

Keel and stems, selected white oak. Ribs, red elm. Planking selected white cedar, copper riveted and burred at ribs. Two rowing seats. Circle seats in bow and stern. Finished in best marine spar varnish. Inside below seats painted buff. Nickel plated or polished brass fittings. Length 16 feet. Equipment—Two pair spruce oars, leathered and copper tipped; cherry rowlock; plain boat chair.

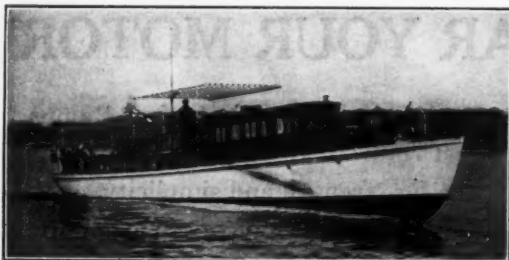


Write for catalog

**SKANEATELES BOAT & CANOE CO., 38 Jordan St., Skaneateles, New York**

Builders of "Boats that will last" for the past 32 years. Established 1893

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York



### FOR SALE

#### The Seagoing Cruiser "CLOVER"

Ready for Immediate Delivery

Length . . . . .	80'	6"
Beam . . . . .	10'	6"
Draft . . . . .	3'	6"

Two double staterooms, two toilets, deck saloon. Galley, pantry, crew's quarters and storeroom. Double planked hull. Mahogany joinerwork. Bronze fittings. 200 H.P. speedway motor. Speed 20 miles per hour. Will demonstrate to authentic buyers. For further particulars and price write:

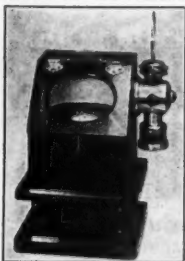
**PURDY BOAT COMPANY** Port Washington, Long Island, N. Y.  
Designers and Builders

## OUR NEW COMPASS CORRECTOR

Only 4½" high O.A.  
(9x9x4½)

This new size will suit many boats where the compass is already high. Will correct all normal deviations.

Descriptive circular on request.



Also Special Compasses and Binnacles, Yacht Clocks, Barometers, Marine Glasses. Agents for the renowned Walker Excelsior Yacht Log—best for Motor Yachts.

Yacht Flags—Charts & Books—Everything for Navigation

**KELVIN & WILFRED O. WHITE CO.**

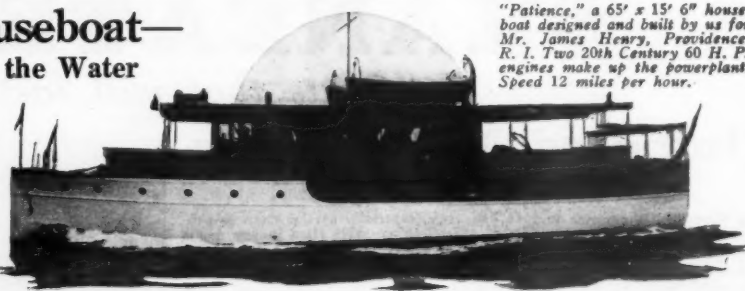
111 Commissioner St.  
Montreal

112 State St.  
Boston

38 Water St.  
New York City

## The Modern Houseboat— A Delightful Home on the Water

THE houseboat is ideal for cruising in northern and southern waters. The New York Yacht, Launch & Engine Craft represents the very latest in design, serviceability and comfort. Designing and building is done entirely in our yards. Our prices cannot be equalled when construction and finish are considered.



"Patience," a 65' x 15' 6" houseboat designed and built by us for Mr. James Henry, Providence, R. I. Two 20th Century 60 H. P. engines make up the powerplant. Speed 12 miles per hour.

Further information upon request

**NEW YORK YACHT, LAUNCH & ENGINE COMPANY**  
MORRIS HEIGHTS NEW YORK CITY



### DOES YOUR BOAT LEAK?

Send for Booklets—"How to Make Your Boat Leakproof," and "Marine Glues—What to Use, How to Use It."

### JEFFERY'S WATERPROOF MARINE GLUES

Finish the Season With a Dry Boat—Let Us Tell You How.

For Sale by all Yacht, Boat and Canoe Supply Houses, Hardware, Paint and Oil and Sporting Goods Dealers

**L. W. Ferdinand & Co., 152 Kneeland St., Boston, Mass., U. S. A.**



**\$835 COMPLETE**

**The SPORTABOUT**  
LENGTH 18' WIDTH 6' SPEED 16-18 M.P.H.  
**FORD MOTOR-MARINE EQUIPPED**  
SELF-STARTER & LIGHTS  
DESCRIPTIVE MATTER ON REQUEST  
**PAUL S. GESSWEIN BOAT CO.**  
BERGEN BEACH BROOKLYN, N.Y.



# Here Is the Very Latest in

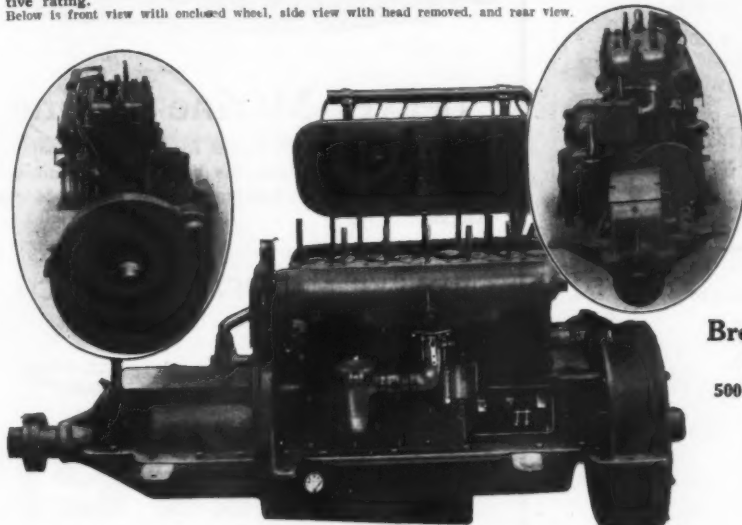
Since the days of Cleveland the name Brennan has been synonymous with quality and value in marine motors. Occasionally new models have come out but no motor has ever been offered the public until it had withstood every Brennan test of time and service.

## The New Model E-4 Is Announced

It contains several innovations such as L head construction with removable head; 4½ inch bore and 5 inch stroke. There are large inspection plates on each side of the base.

It is an ideal twin screw installation built in right and left hand rotation. The exhaust manifold is completely water jacketed. It has a conservative rating.

Below is front view with enclosed wheel, side view with head removed, and rear view.



Model E-4, 35-50 H.P., \$900. Complete with electric starter and propeller equipment.

# BRENNAN Standard MOTORS

## The Entire Line of Brennan Motors

### Constitute Unusual Values

The Brennan has always been the quality motor.

You should be posted on the many new exclusive features that are being brought out in the Brennan line. Get on the Brennan mailing list.

"Write Brennan  
Before You Buy"

Brennan Motor  
Mfg. Co.

500 E. Water St.  
Syracuse,  
N. Y.

### COUPON

Write me your new  
sale plan. My require-  
ments are .....

Name .....

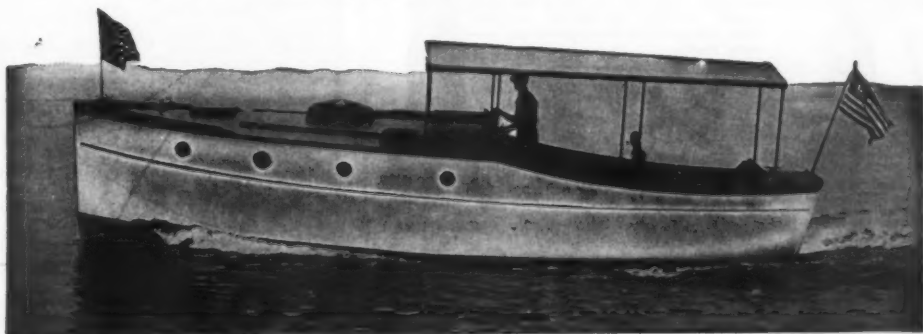
Address .....

# The INTERNATIONAL THIRTY TWO

The First "Everybody's Motor Boat"

Raised Deck  
Cruiser Com-  
plete, Ready  
for Cruise —

Delivery from  
Stock

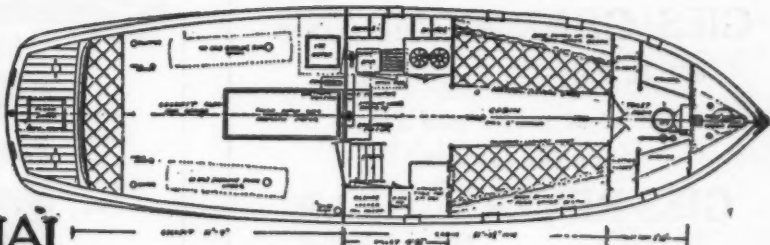


### PRICES

\$3950 with Kermath 20 H.P. En-  
gine, speed 10 miles per hour.

\$4350 with Kermath 35-50 H.P. En-  
gine, speed 12 miles per hour.

The Best Boat Value—  
By a Very Wide Margin



Arrangement Plan

**INTERNATIONAL**  
SHIPBUILDING AND MARINE ENGINEERING  
CORPORATION  
NYACK, NEW YORK, U.S.A.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York

# MIANUS

## Diesel and Gasoline Engines

**Diesel Engines—**  $7\frac{1}{2}$  to 125 B.H.P.

Each engine designed and built to meet the requirements of the highest class of the American Bureau of Shipping.

**Gasoline Engines—** { 2 Cycle, 3 to 15 H.P.  
4 Cycle, 25-40 H.P.

Write for Bulletin M

### MIANUS DIESEL ENGINE CO.

GENERAL OFFICES: 185 BROADWAY, NEW YORK

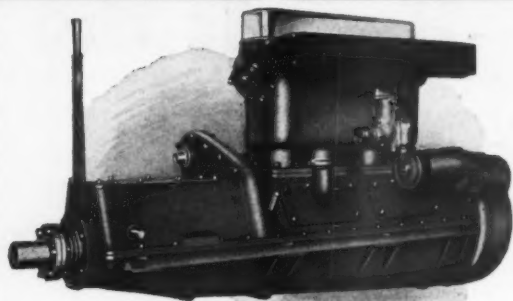
Telephone: Cortland 7923

Factory: Stamford, Conn.

BRANCHES  
New York    Los Angeles, Cal.    Boston, Mass.    Baltimore, Md.    Norfolk, Va.

AGENTS  
Esipco Engineering Co., New Orleans, La.    Pieper Sons, Charleston, S. C.  
F. W. Backus, Miami, Fla.

**MIANUS**  
**DIESEL**  
—AND—  
**GASOLINE ENGINES**



## Beaver Marine Engine

Before deciding on the power for your boat, particularly 35 ft. cruisers, get the specifications and surprising construction advantages of the Beaver Marine Engine.

Write for latest catalog Marine Division

### BEAVER MANUFACTURING CO.

41 25th Street

Milwaukee, Wis.

*for steady service*  
**Beaver**



## ZUNDEL

### BOAT SUPPLIES

Send 25 cents for our complete illustrated catalog of marine supplies. This amount will be credited on your next order.



St. Clair Bilge Baller, \$12.50 The most popular bilge baller on the market. For any size or type of boat.



Blood Universal Joints, \$8.75. 1" and 1 1/2" shaft diameter.



Marine Horn, \$7.00.

R. W. ZUNDEL, Inc., 1 Block from South Ferry  
47 Whitehall Street — Phone Bowling Green 9157 — New York, N. Y.

## BOSWORTH GASOLINE OR FUEL OIL FILTER

### IN BRASS

No. 125— $\frac{1}{2}$ ....\$5.00

No. 250— $\frac{1}{2}$ .... 7.50

No. 375— $\frac{1}{2}$ ....10.00

No. 500— $\frac{1}{2}$ ....20.00

Eliminates danger of backfires due to water or dirt in fuel.

Eliminates fuel stoppage at sea

DUTCH WEAVE MESH BASKET.

FURNISHED IN ANY MESH DESIRED

**THE BOSWORTH FILTER, Inc.**  
15 WILBUR AVENUE LONG ISLAND CITY, N. Y.

## Write GIES GEAR COMPANY

441 E. Fort St., Detroit, Mich.

for latest prices and data  
on the famous

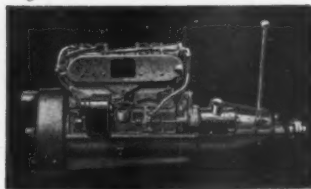
### GIES REVERSE GEAR

Over 50,000 in use  
20 Years on the Market

## CADYFORD

The Engine You Can Afford

Pioneer  
Marine  
Engine  
Manufacturers



Write  
Stating  
Your  
Requirements

Established  
1883

MODEL EUMS

C. N. CADY COMPANY, INC.

384-G Centre Street

CANASTOTA, N. Y.



No. 35Y  
Yacht Arm Chair

Hardwood frame,  
all metal parts  
brass. Folds to  
26 1/2" x 16 1/2" x  
8". Weight only  
14 1/2 lbs.

## "GOLD MEDAL" FOLDING FURNITURE

For 33 Years the Recognized Standard.

### Gives Home Comfort "Aboard"

This new Yacht chair, designed especially for Motor Boat Use, insures complete relaxation and rest. Its stylish lines, handsome mahogany finish, khaki seat and back, and brass metal parts harmonize with appointments of finest cruisers on deck or below. As all metal parts are brass, it defies salt water. There is a piece of "Gold Medal" Folding Furniture for every purpose.

Sold by reliable dealers everywhere.  
Write for name of one nearest you  
and handsome illustrated catalog.

Gold Medal Camp Furniture Mfg. Co. 1754 Packard Avenue, Racine, Wis.



## THE MILLER WAVE OPERATED BILGE PUMP

### It Pumps While You Are Away

Operated by the motion of moored boat, caused by wind or passing boats. Made in three sizes suitable for boats up to 40 feet.

Write for full description and prices.

### THE UTILITY FOLDING STOOL

A space-saver in the cabin or on deck.

Diameter of seat, 11"

Length extended, 14"

Finished in oak or in mahogany or birch

Your dealer can supply you, if not, write to us.

**E. G. Long Company**

Manufacturers

50 Church St. - Room 1361 - New York, N. Y.

Specify  
**TEXTASOTE**



for  
awnings  
spray hoods  
deck canvas  
boat covers  
hatchways  
and wherever  
duck is used

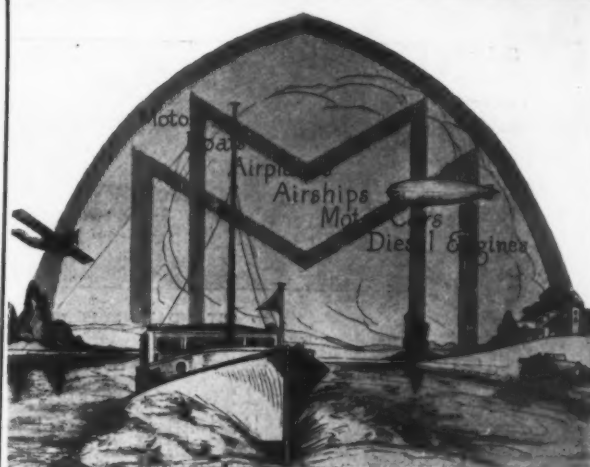
## Brooks' KNOCK-DOWN BOAT FRAMES

Save You Two-Thirds the  
Cost of Any Type Boat

THE Brooks system is the only method of easy boat building. Over 55 designs to select from—CABIN CRUISERS, V-BOT, TOM RUNABOUTS, HYDROPLANES, ROW BOATS and SAIL BOATS, all of modern design. Our new 64-page book of designs completely describes each boat and fully explains how easily and quickly it can be built. Send 25c for this book today—don't wait. You can still build a Brooks boat in time to enjoy it this season.

BROOKS BOAT CO., INC., Dept. 33, Saginaw, Mich.

Originators of the pattern and KNOCK-DOWN system of Boat Building



## And All Propelled by Maybach-Zeppelin Motors

The most gruelling of all tests—the historic trans-Atlantic flight of the ZR-3 (now the U. S. Navy Airship Los Angeles)—established Maybach-Zeppelin as the acme of perfection in gasoline motors.

Maybach-Zeppelin now stands at the pinnacle in motor designing and engineering for water, land, and air crafts.

The  
Motor that  
Brought the ZR-3 to America

## COMPLETE BOATS, CRUISERS and ENGINE INSTALLATIONS

in finest workmanship and materials at extremely reasonable prices. Let us know your wishes and we shall furnish you with drawings and specifications. There is no obligation. Write to or call at our offices or telephone for a representing engineer.

**MAYBACH MOTOR CO.**

F. W. Von Meister

General Agent for the United States

253 West 57th Street

New York City

Circle 3935



Safety  
Dryness  
Comfort  
Stability



Shallow Draft  
Weedless

STANDARD 25 FOOT 40 MILE SEA SLED RUNABOUT

Both the 25 foot, 40 mile per hour Sea Sled Runabout, engined with a 6-cylinder Hall Scott, or the smaller 22 foot, 33 m.p.h. Sled with the new 6-cylinder Peerless can be had in a few days. Real all weather runabouts.

The engine is aft so the passengers ride ahead of its noises and smells. The single surface propeller insures the simplest mechanical arrangement, weedlessness, extreme shallow draft, and the highest speed efficiencies.

## SEA SLED DINGHIES



SIZES 11 AND 13 FEET

A boat whose unique advantages make an instant appeal to discriminating boatmen, hunters and fishermen. Commodious, non-capsizable, dry and absolutely safe. A combined raft, spring board, row-and outboard motor boat, in a beautiful brass fitted, bright mahogany Sea Sled Dinghy.



## SEA SLED COMPANY, LIMITED

WEST MYSTIC, CONNECTICUT



26 Ft. Albany Runabout

# Touring On The Water



Albany Cruisers are of the V bottom type. The V bottom construction is stronger, more stable in a sea-way and much faster than the ordinary construction. The higher speed increases the cruising radius and makes possible a much longer cruise in the same time.

Albany Cruisers bear the same relation to ordinary boats that the high powered automobile bears to an ordinary car.

involves all of the advantages and none of the discomforts of touring on land. With an

## ALBANY RUNABOUT

you can maintain an average speed equal to an automobile and enjoy the exhilaration and fascination of high speed on the water with its invigorating and health building sea air, free from dust and exhaust fumes.

The absence of traffic regulations, congestion and dangers brings a freedom that must be experienced to be fully appreciated.

ALBANY RUNABOUTS with their deeply cushioned seats, self-starting engines and carefully studied appointments and conveniences offer the most highly perfected combination of comfort, ease of operation and high speed.

### *Our Complete Line of Albany Boats is as Follows:*

26 foot open Fishing-boat.	36 foot Cruiser—speed 15 to 25 miles per hour.
26 foot Runabout—speed 30 miles per hour.	40 foot Cruiser—speed 15 to 30 miles per hour.
26 foot Runabout Special—speed 40 miles per hour.	45 foot Cruiser—speed 15 to 25 miles per hour.
34 foot Runabout—speed 30 to 55 miles per hour.	52 foot Cruiser—speed 15 to 22 miles per hour.

### *Ask us about the Jack-Rabbits*

Beautiful 20 ft. mahogany Runabouts. Speeds from 25 to 35 miles per hour. \$1800 to \$2150, completely equipped with Lycoming engines with electric self-starters.

*Distributed Exclusively By*

## YOUNG and HALL, Inc.

WILBUR H. YOUNG

LOUIS J. HALL

**522 Fifth Avenue,      Phones: Murray Hill 8160-8161      New York City**

## Beautiful Georgian Bay

(Continued from page 22)

side, the formation of the shore—composed of huge round boulders and pebbles. You can gaze down into the water here and see bottom at forty feet, the water being so clear. Many times I have landed on the beach side and walked through the woods, climbing up to the top of this tomb, coming to an inland lake at its very pinnacle, surrounded by a dense forest. A legend tells us that the place is haunted, and although owned by the Indians, they never come near or set their feet upon it.

This is only one of many spots that one may stop at, but it is off the course that you are supposed to follow.

Upon reaching Split Rock you enter again into a maze of islands, one moment passing through a narrow channel just large enough to let the boat through, then into bays and inlets, inviting lily pads where the lusty pike lazily hides in wait to strike—and where you may anchor and still fish for minnows as bait to cast for the big ones.

I have anchored in many of the spots, catching small shiners and perch, using the latter on a large sized Cincinnati bass hook, and cast from all angles of the boat, catching pike up to 15 pounds and rarely one under five. Here, too, the big-mouth bass lie in wait for the elusive shiner, and many times the small-mouth—the greatest fighters for their weight I know of. They do not come up sluggish like their brother of the inland lakes where the water is so warm, and the weeds so thick, and bottom so muddy that the fight is not there, but take these bass of the one and only Georgian Bay—catch one. You, too, will see the difference in their fighting abilities, and the solid meat that their wormy brother has, of the torpid water that stagnates among most of our inland lakes. I have hooked and landed many a muskallonge in the Georgian Bay, and I shall state right here, if you have never caught one in these waters you will never forget your first experience, and each succeeding one, when you get one on your line. Not only is it the king of all large fresh water fish, but its all nature that surrounds you where this fish is caught—that futile words never can convey to your thought the enraptured paradise where these fish abound.

All along through these islands thousands of bays, channels, lakes, inlets, entice you as a place to cast your line where the strike of an unknown fish awaits you. You find no dust of the city—the rocks are all clean enough to eat off, and all the islands are filled with luscious berries in season—blueberries, huckleberries, strawberries, blackberries, raspberries, gooseberries, cranberries, pin-cherries, choke-cherries in abundance, and the most luscious I have ever seen anywhere in this country; thousands of places to pitch your tent, firewood on all islands, pure drinking water all about you—a plunge without a clammy bathing suit to chill you to the bone—and that air! Were it in my power, and the necessary funds were at my disposal, I would devote my life to taking the tired business man to this fairyland, and be amply paid to watch the expression in his eyes, and the joy radiate through his whole being as he sat there fighting with a big one—or en route through a country equalled by none—and the only place of its character upon this planet.

Leaving Gohome Bay, passing through Indian Harbor, and on and around Moose Prints, and into a bay alongside Jubilee Island—here is a place where many men camp in the fall of the year, the latter part of October. They troll here and set gill-nets for the large lake trout that come up on the shoals to spawn. I have rolled here in the fall, camping on the shore of Jubilee Island, with a small stove in the tent, catching these large trout that weigh up to 35 pounds.

We leave Jubilee Island, pass San Souci, and fifteen miles further to Parry Sound. Sixty miles of fairyland and many more, if you wish to cruise further. One can take this sixty-mile trip and return easily in two weeks, taking time to fish and camp along the way, wending your way slowly, as many dangerous shoals loom up in the most unsuspected places. Patch up your old outfit, get your tackle in readiness, resurrect the discarded briar pipe, buy your ticket for Penetang, and remember, you are entering into a dream paradise, untouched by human hands, and all nature surrounded by infinite wondrousness.

## Price Reduced on Coast Guard Engines

An announcement of interest to all users of large size engines has been made by the Sterling Engine Company of Buffalo, N. Y. Due to the large production of the Coast Guard engine, they have been enabled to reduce the price very considerably, which will enable still more of these plants to be placed on fast boats. These engines have all the newest features of design, including dual valves, quadruple ignition, 100 per cent reverse, and other modern features.

"Watch-dogs  
of the Deep"

SCURRYING clouds—lowering barometer—mountainous seas pounding down unmercifully. Every plank and rib groaning under the racking strain.

—then from below "she's sprung, sir, leaking badly."

NO GEARS  
to wear out  
NO VIBRATION  
to cause trouble  
MINIMUM  
OVERHEAD  
In attention and  
upkeep

All brass for salt  
water bronze for  
fresh water. Custom for  
all services.

A type for  
every ship  
and boat

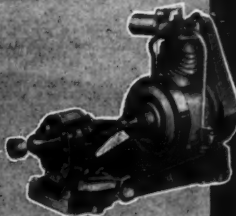
Two men dash ahead, a tarpaulin is hastily flung aside revealing an AMF All-Purpose Pump, "Watch-dog of the Deep." One turn and she is all action—all energy and mechanical strength. Pumping ten, twenty, thirty gallons per minute with unfailing power. Doing the work of ten men, quietly and without attention.

A half hour later "All's well" rings down from the fore-castle. The pump had brought her through triumphantly, met the emergency as only an AMF All-Purpose Pump can meet it.

American Machine & Foundry Company  
5520 Second Avenue, Brooklyn, New York



Electrically  
driven



Gasoline  
driven

A·M·F. "STANDARD"

The QUALITY pumps



SAFETY



Banfield, De Luxe Model,  
Twin Screw Cruiser

FIRST

THERE is safety, speed, beauty and technical perfection in a sea skiff cruiser by Banfield. Qualities obtainable only by years of experience, exactness of detail and strict adherence to owner's personal requirements.

Banfield cruisers are built in standardized models from 26 feet to 34 feet in length. Priced from \$1,985 to \$8,250, single and twin screw.

Below is a partial list of prominent yachtsmen who prefer sea skiffs by Banfield:

MR. AUGUST BELMONT, JR.  
COL. EDWIN M. CHANCE  
MR. HUGH C. CRESSWELL  
MR. DOUGLAS DEARBORN  
MR. L. DELANO  
MR. C. W. FEIGANSPAN  
MISS L. N. GRACE

MR. COLUMBUS O'D. ISRLIN  
MR. RICHARD G. LEDIG  
DR. ANDREW LINN NELDEN  
MR. ARTHUR N. PECK  
MR. W. K. VANDERBILT  
MR. GEORGE G. WILLIAMS  
MR. ALEX. M. WHITE

[ Banfield cruisers and fishing skiffs can be furnished  
under the supervision of your own naval architect. ]

Orders now being booked for coming Florida Season.

Write for specifications and full particulars on Banfield Sea Skiffs, also for details of the new Florida Fishing Boy, a deep sea fishing boat designed particularly for Florida waters.

**BANFIELD SEA SKIFF WORKS**

ATLANTIC HIGHLANDS

NEW JERSEY

# Electricity for your Boat

Plenty of light and power—  
anywhere—anytime—with this  
sturdy little Portable power  
plant.



## HOMELITE

The only portable  
Electric Light Plant

Homelite operates on any liquid fuel—safe and economical—air cooled. Besides all lighting requirements such as search-lights, sailing and cabin lights, it will operate toasters, grills, refrigerators, bilge pumps, fans, etc. Charges the starting batteries for the boat's engines. Carry it anywhere—use the same plant to light both the boat and the camp—it will double your enjoyment in cruising.



Write today for  
descriptive folder.

## HOMELITE CORPORATION

Grand Central  
Terminal  
New York City



\$105.00 (without batteries)

Dimensions, 21" long, 21"  
high, 14" wide.

## By Waterways to Gotham

(Continued from page 29)

wagon-maker, to continue exploration on the route discovered by Nicolet and so unravel the mystery of The Father of Waters. Setting out from New France with the avowed intention of exploring the great river of the west, Joliet reached the Straits of Michilmackinac in the fall of 1672. Wintering here, he met Pere Marquette, who had established a mission for his wandering Hurons on the site of the present town of St. Ignace. The bond of confidence and affection established between the two men here resulted in a partnership that was to bring fame to them both. With two birch bark canoes, paddled by Indians, the voyageurs started westward on May 17, 1673, following the same route along the north coast of Lake Michigan originally pioneered by Nicolet and subsequently used by Nicolas Perrot in trading for furs with the Winnebagoes. A month later, having followed up the Fox River from Green Bay and portaged to the Wisconsin, they reached the Mississippi. Returning by the Illinois River, they came to Lake Michigan at what is now Chicago, whence they followed the west shore of the lake to Green Bay. From here they back-tracked their original route to Michilmackinac, where Marquette remained, while Joliet pushed on to Montreal to make report of his discoveries.

The following year Marquette returned to redeem a promise to found a mission among the Illinois. After wintering on the Chicago River, he reached his destination in the spring, but in such enfeebled health that he resolved soon after to retrace his steps to die among his beloved Hurons at St. Ignatius. On this return journey he attempted to follow the eastern shore of Lake Michigan. Losing strength day by day, he died and was buried at the mouth of the river which now bears his name. Two years later a band of his devoted converts, paddling down the stormy coast in their canoes, returned with the remains of their revered leader to the mission he had founded for them. To give it to its final resting place in the chapel above the straits we now call Mackinac.

La Salle's ambitious expedition of exploration set out in the spring of 1679 in a vessel built and launched near the foot of Lake Erie. The first sailing craft, the Griffon, to navigate the Great Lakes, reached Michilmackinac on the 27th of August, pushing on to Green Bay a few days later. Proceeding up Fox River in canoes on the journey that was ultimately to take him to the mouth of the Mississippi, La Salle ordered the Griffon to return to the Erie base above Niagara. In charge of a pilot, supercargo and five sailors and laden with many bales of valuable furs bartered from the Indians, she sailed on September 18, never to be heard of again. Tradition holds that the end came in a storm that caught her between the rocky jaws of Death's Door, and that the Indians of the peninsula put finishing touches on the destruction started by the elements. This version of the loss of the Griffon lacks substantiation, but the fact remains that somewhere between Green Bay and Mackinac the first ship to sail those inland waters became also the first victim of the rocks and shoals that have since won for the north coast of Lake Michigan the grim title of, The Graveyard of the Great Lakes.

After playing its part as a strategic route in the struggle between the French and English and in the War of American Independence, the Great Lakes-Wisconsin highway to the Mississippi Valley became a channel of western pioneering movement second only to that of the Ohio. Most of the French-Canadian voyageurs who played so important a part in the early navigation of the Mississippi and Missouri came to St. Louis by this route, and the long boats used by Lewis and Clark and the Astor expedition were dubbed mackinaws because the men who introduced the type came by a strait and post sometimes called by that name.

With the coming of steamer navigation there was no longer necessity for the voyageur to crab along the rocky north coast of Lake Michigan in his canoes and batteaux, while with the westerly march of the railroad there was no longer occasion to use the Fox River-Wisconsin route to the Mississippi. For upwards of three-quarters of a century now the historic highway of the earlier and later pioneers from the St. Lawrence to the Mississippi has been but a way of crumbling landmarks and fading memories. But what memories they are! Not all the savage fury of the storm that held me for four days an unwilling prisoner on St. Martin's Island could stem the rising tide of zest aroused by the adventure of trying to follow in the ways of La Salle, Joliet, Marquette and Champlain all the way to tidewater of the Atlantic.

The first two days of the storm that kept me at St. Martin's were so bad that even the big ore steamers remained in port at Escanaba, leaving the wind-whipped waters empty of movement from the shoals of Poverty Island to where they merged mistily

(Continued on page 86)

# Why Miss Half the FUN?

As you read Lewis R. Freeman's gripping story, "By Waterways to Gotham," in this issue of Motor Boating, remember it was Elto that alone drove his 18-ft. skiff those 2,000 thrilling miles "from Milwaukee to the Sea."



## Enjoy the SPEED that ELTO gives

Elto is built for Speed. One of the first things you will discover about this powerful New Light-Weight Motor, is the ease with which you can pull away from the crowd. Starting instantly—always on the first quarter turn—you plow through the water with a flashing speed that thrills you. You set a racing pace.

- Whether you want to be first to get to the fishing grounds,
- Whether you want to cross the finish line first,
- Whether you are hungry and want to get back to camp in a hurry,
- Whether you want to skip in ahead of a threatening storm,

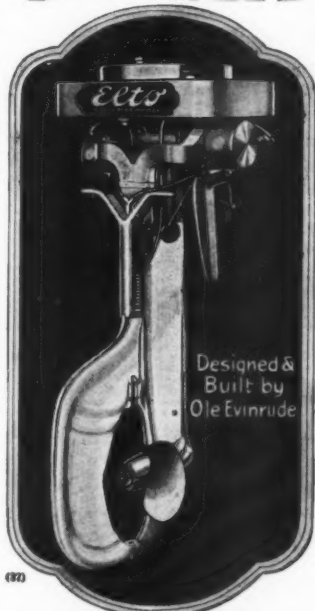
—you will appreciate daily Elto's dashing speed. Without it, you will miss half the fun of owning an Outboard Motor. Remember, it costs no more. Speed is just one of the extra values Ole Evinrude has provided for you in this New Fast Light-Weight Twin Motor.

### Other Exclusive Elto Features

"Quarter-turn Starting" every time, in all weathers; sure-fire, trouble-proof, water-proof ignition, safe rudder steering, automatic tilting, and the Propello Pump—Ole Evinrude's latest, greatest improvement for Outboard Motors, a cooling system that never clogs, never sticks, never fails, even in sandy or muddy waters.

Write today for Free Elto Catalog. Read for yourself what men who have operated other motors say now about Elto. We urge you to "Ride—then Decide."

**ELTO OUTBOARD MOTOR CO.,** OLE EVINRUDE,  
Dept. F, Manufacturers' Home Bldg., Milwaukee, Wisconsin  
President



Two-Cylinders—Bore 2 1/4-in., Stroke 2-in.  
**WINNER**

1924 Mississippi Valley Power Boat Race, Oshkosh, Wis., also official races at Pocono Lake, Pa., Oneida Lake, N. Y., Chemung Lake, Ont., Lake Wichita, Tex., Withlacooche River, Fla., Peoria Lake, Ill., Fox Lake, Ill., St. Johns River, Fla., Chautauqua Lake, N. Y., Twin Lakes, Conn., Lake Stresa and Lake Como, Italy, Sarasota Bay, Fla., Kootenay Lake, B.C., Battle Lake, Minn., Cranberry Lake, N. J., Saugatuck, Mich., Montreal, Canada, Augusta, Maine, etc.

# Elto

Ole Evinrude's New Fast Light Twin

**The Motor that Starts with a Touch**

—That's What Users Say.

You can now obtain an Elto on our Easy-Pay-Plan of One Small Down Payment and Convenient Monthly Terms.

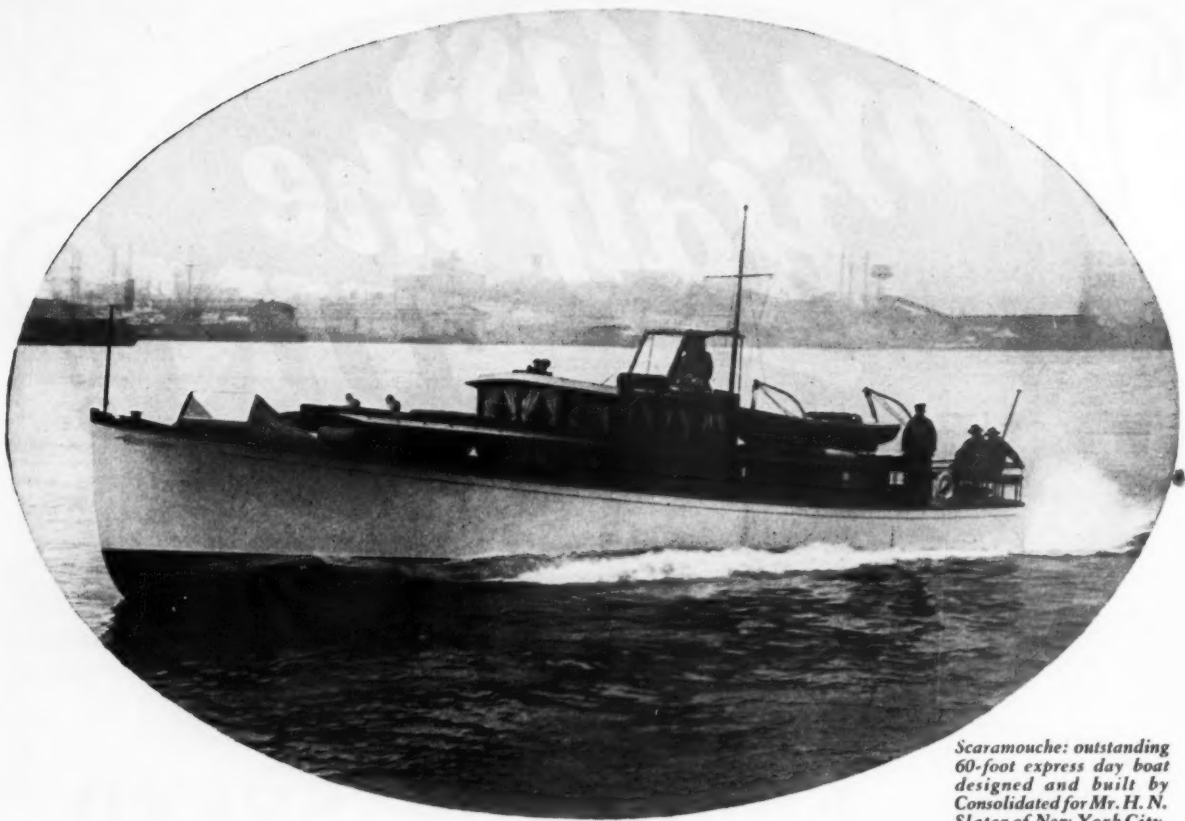
ELTO OUTBOARD MOTOR CO., Dept. F, Manufacturers' Home Bldg., Milwaukee, Wis.  
Send me complete catalog describing the new Elto Outboard Motor.

Name.....

Address.....

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 110 West 40th Street

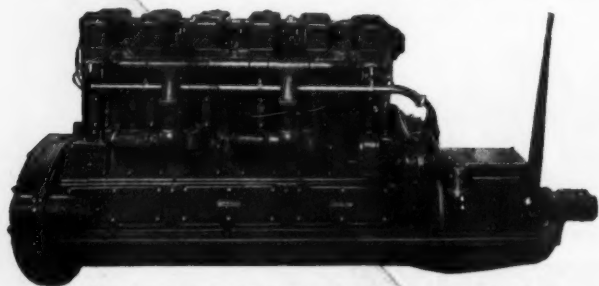




*Scaramouche: outstanding 60-foot express day boat designed and built by Consolidated for Mr. H. N. Slater of New York City.*

To enjoy a new Consolidated boat at Miami next Winter—let us have an outline of your requirements now

**B**ECAUSE a Consolidated yacht or cruiser reflects the owner's particular taste and requirements in the many details that make for true distinction, those who have in mind a really fine boat for the coming Southern season should place their wants before us as soon as they conveniently can.



*Speedway Engine Model R, developing 300 H. P., with 7-inch bore by 8½-inch stroke.*

Perhaps you are figuring on a North and South Cruiser—that all year round type of boat of which Consolidated has produced so many notable examples

—or it may be that your preference is for a luxurious cruiser-houseboat or something smaller for day sailing and an occasional fishing trip.

Whatever your requirements, Consolidated is prepared to translate them into a boat that will combine service, comfort, refinement and value in a way exceeding even the most enthusiastic expectation. A preliminary interview can be arranged at your office or club if more convenient than our offices at Morris Heights.

### *Just one more of the famous Playboats for immediate delivery*

SOMEBODY'S family and friends are going to be exceedingly grateful that he placed his Playboat order in time to secure the last of the fleet we constructed a few months ago.

These 34-foot cabin boats (as illustrated below) represent a distinct innovation in design—comfortable, dry, seaworthy and fast, they offer ideal recreation in any water.

One man control; economical opera-

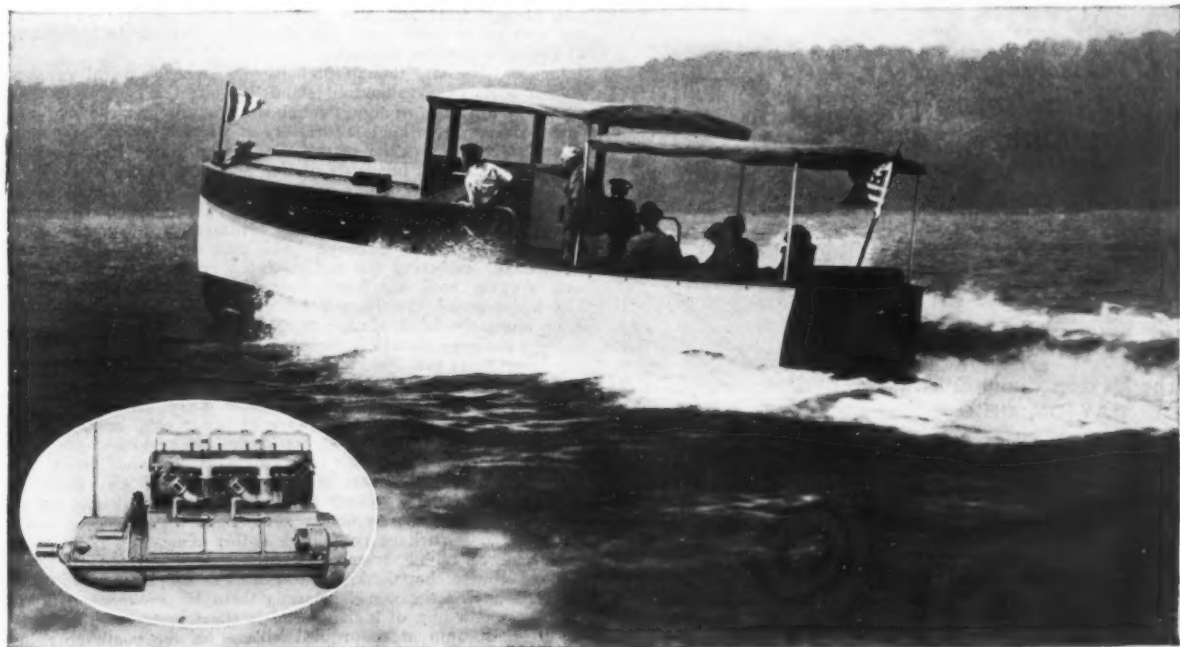
tion; completely equipped; powered with Model MR-6 Speedway; beautifully finished. Owned and endorsed by a long list of well-known sportsmen.

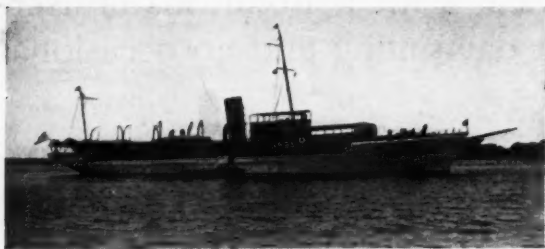
*Prompt action is essential to secure this Playboat, which can be delivered for immediate service.*

**Consolidated Shipbuilding Corp.**

MORRIS HEIGHTS

NEW YORK CITY





The "Oneida," the palatial yacht owned by the International Film Service Company, which is supplied with running water by a Dayton Automatic Water Supply System. A. S. Chesebrough, Designer; Harlan & Hollinsworth Company, Builders.

## And on the "Oneida," Too, A "Dayton"

CONSISTENT with the aim of its designer to make the "Oneida," owned by the International Film Service Company, truly a palatial home afloat, a Dayton Automatic Water Supply System was installed to supply running water aboard. It was selected as being most "in keeping" with her other fine appointments and equipment, and for assurance of long life and dependable service.

"DAYTONS" enjoy that reputation both afloat and ashore—for in the complete family of Dayton Systems may be found one for every purpose—for modest boat or pretentious yacht, for suburban home or the most elaborate requirements of the country estate. They are priced as low as \$85.00.

With a "DAYTON" supplying water under pressure, standard plumbing fixtures, lavatories, sinks, closets, shower, etc., can be used on a boat instead of expensive special marine fixtures.

Naval Architects and Builders are invited to make use of our free service in selecting the proper equipment for their requirements.

## The Dayton Cub 200 Gallons per Hour

For the average boat Dayton "Cub" is ideal. Small and compact, it may be quickly installed anywhere—occupies but little space. Largest capacity of any pump for the price. Inexpensive to operate—practically no maintenance cost. Supplies water under pressure to all parts of boat. The best small pump ever built—yet it costs only \$85.00.



**The Dayton Pump & Mfg. Co.**  
DAYTON, OHIO  
N. Y. Office  
224-226 East 42nd Street

Return the coupon for our new free booklet, "Dependable Water Service."

The Dayton Pump & Mfg. Co., Dayton, O.  
Please send at once your free booklet DEPENDABLE WATER SERVICE.

Name .....  
Street .....  
City .....

## "Dayton" Pumps

*Make the water do the running*

## By Waterways to Gotham

(Continued from page 82)

with the Michigan mainland beyond the Bay de Noc. I divided my time between tinkering with my outfit in the shelter of the boat-house and taking long walks across and around the little island under the escort of the hardy Kincaide progeny. Not a little of the short and simple early annals of St. Martin's was revealed by our energetic explorations. Hey-day must have been contemporaneous with the height of North Coast lumbering campaign, five or six decades previously. Certainly, at any rate, the deeply buried dump of green bottles in the rear of a long, square-fronted log building was of pre-Volsteadian origin. There were ruins of tiny hamlets at both the north and the south coves, and half way along the grassy road between we found what had evidently been a community church or school-house and a graveyard. The slip for boats behind the ruins of the log break-water at the north cove had long been left dry by the recession of the lake.

Where St. Martin's had supported a population of a hundred or more when it fished for the roaring lumber towns to west and north, I now found but a scant half dozen that would rate even as semi-permanent residents. This was made up of the lighthouse keeper and his assistants, and a couple of men cutting cedar logs for fence-posts. All of these went home to Washington Island when ice closed navigation for the winter. There was neither telephone nor automobile, and only one team of horses. This idyllic condition may be expected to last only until the northward rolling wave of summer resorts begin to break beyond Green Bay Peninsula half a decade or so hence. The memory of the lily still unravished of its dewy freshness is filed away in a nook of its own.

Awakening to discover a clear sky overhead on the morning of my third day at St. Martin's, I prepared to get under way again. When I went up to report to Kincaide, however, the veteran urged strongly that I delay at least another day. Pointing out that there had been no appreciable rise in the barometer, he said that the apparent falling off of wind and seas was only local, and that there was still enough of both outside to scour the hair off a cast-iron dog. If I must have a first-hand demonstration, he added, I might go along in the tender that Mallock was going to try to drive across to Washington Island and find out for myself. It was even rougher water than he liked to have the tender out in, but his report should have been on its way three days ago, and must be started today in any event.

Of course Kincaide was right about the weather. With two or three miles of sheltered water at either end of the ten-mile crossing to Jackson Harbor, the blast sweeping across the open stretch between stopped the dumpy, top-heavy little tender almost dead when she faced it and rolled her to her side-lights when she turned beam-on. While I solemnly assured Mallock that my own little shallop would have made better weather of the blow than his was doing, it was only by way of saving face after my temerity of the morning. As a matter of fact, there was enough wind and wave for four miles to have swamped any sort of an open craft less seaworthy than a double-ended whaler or a modern lifeboat.

Jackson Harbor, though perhaps the least beautiful of the several ports of Washington Island, is quite the best protected, especially for boats of light enough draught to enter the shallow inner cove. The island is the largest of the several stepping stones strung across the entrance of Green Bay. It has much fine woodland, with hundreds of rich acres under orchard. The population is of Icelandic origin, tempered with a mellowing blend of Scotch and Irish. They are a simple, hardy folk, having much in common with the crofters of the north coast of Scotland and the Orkneys. The men are much in demand for fishing, lumbering and sailing, but however far they fare, and however well, the loved home island is never forgotten. The home-weary Washington Islander whom I encountered so often along the lakes always recalled to my mind the lines put in the mouths of the Gaelic boatmen of the St. Lawrence:

*"Fair these broad meads, these hoary woods are grand;  
But we are exiles from our father's land."*

My affirmative nod and grin to the eager query of, "An' did ye touch at Washin'ton?" were to prove open sesame at a score of fisher huts and logging camps on remote coves and channels of the rough north coasts of Michigan and Huron.

The tender bumped what Mallock called The Rocky Road to Dublin most of the way back to St. Martin's, but without doing much harm beyond scrambling some eggs and kerosene with the parcel post package containing Esther Kincaide's new mail-order pair of hiking breeches. The eggs and oil were a total loss, of course, but Esther was quite philosophical about the breeches, saying she would be using them for cooking, anyhow.

There was a hint of high wassail in the friendly invitation of the logging camp at the ruined village on the south cove to

(Continued on page 88)



# How Universal Has Made a Better Motor Still Better

TO take a motor that has stood out, season after season, above the rank and file of similar-sized power plants, and better it in every detail that has made it desirable, is Universal's 1925 achievement in the 15 H.P. Flexifour.

In power—a 25 per cent increase! In fuel consumption—a 10 per cent saving! In smoothness—a definite improvement that is instantly noticeable! And all this without the slightest increase either in over-all dimensions or in bore-and-stroke!

"As good as a Universal," in years past has been the highest of praise for a small-boat motor. But it's getting harder to say!

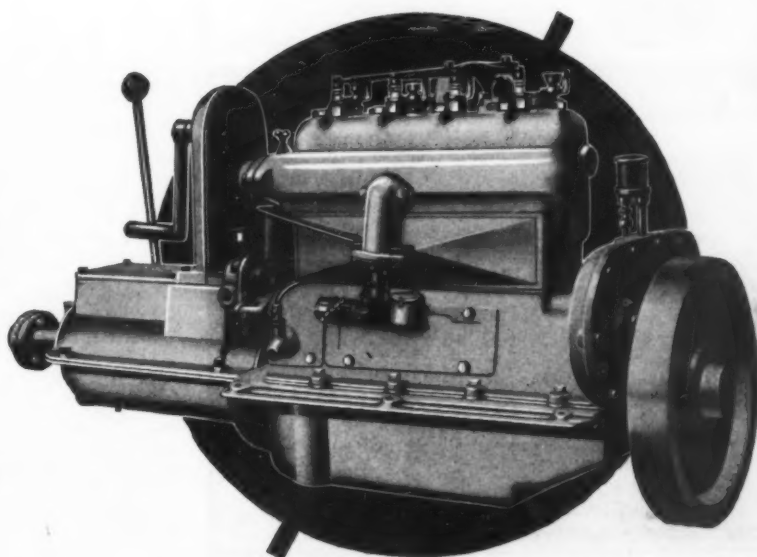
Write for details—not forgetting to mention the size and type of your boat.

**UNIVERSAL MOTOR COMPANY**  
40 Ceape St. Oshkosh, Wis.

(Not connected with any other firm using the name Universal)



New Bosch automobile-type 6-volt, 2-unit starting and lighting systems now supplied with Universal Flexifour—and at a lower cost than previous electrical equipment. Consists of Bendix-drive starter, generator, distributor, coil, starting and ignition switches, ammeter, etc.



Builders also of Universal Marine type and Standard (land) type Electric Plants, Universal Industrial Engines and Centrifugal Pumping Sets.



**FOR STEEL Long Life Stays Clean**  
**OR WOOD A Hard Slippery Surface**  
**Saves Its First Cost Many Times Over**

Used by the Finest Cruisers and Fastest Racers and by Merchant Vessels Highly recommended and used by J. Murray Watts, Cox & Stevens, John G. Alden, George Lawley & Son Corp., Consolidated Ship Building Corp., Herreshoff Mfg. Co., The Elco Works, The Mathews Co., and many other famous Naval Architects, and by the most reliable ship and yacht yards and dealers.

#### GAR WOOD, INC.

says: "We do not hesitate in recommending it very highly to any builders or owners of high-class boats."

IT IS A POWERFUL PREVENTIVE OF MARINE GROWTH, BARNACLES AND BORERS.

IN TROPICAL AND SEMI-TROPICAL WATERS it has no equal as a protection against destructive Tereidos.

ALL PUT UP DOUBLE STRENGTH

STEARNS-McKAY MFG. CO. (Marblehead, Mass., U. S. A.)

Cable Address: McKay, Marblehead

## TOPPAN OUTBOARD MOTOR BOAT



Send for Details of Our Combination  
 Price with the  
 Powerful 3 H.P.

### ELTO MOTOR

Toppan Boat & Engine Co., Medford, Mass.  
 Builders of the popular "SEA DOG" 22 ft.  
 25 mile double cockpit runabout; the famous  
 "TOPPAN 22 ft. POWER DORY LAUNCH";  
 the "TOPPAN TOT" 15 ft. marconi cat sail  
 boat. Also dory type rowing skiffs and yacht  
 tenders in stock.

*A safe and fast Sea Skiff*

*For Outings-Picnics-Camping!*

*G. Washington's* DELICIOUS  
 INSTANT Coffee

Convenient-compact-saves weight and  
 space. Delicious coffee instantly-just  
 add water. No coffee-pot needed.  
 Trial size 10 cents. Booklet free.

G. WASHINGTON COFFEE  
 REFINING CO.  
 76 VARICK STREET, NEW YORK



## By Waterways to Gotham

(Continued from page 86)

hang on for a snack o' grub, but Mallock had to hasten back with the station mail. Trudging the leafy tunnel of the grassy track across the island, we came out to the lighthouse in the lilac-scented dusk to find a fish-bake in preparation on the beach by way of a farewell party. Firm translucent steaks, cut from the sides of newly-caught lake trout and grilled on planks by the heat of oaken embers, formed the *piece de resistance*, with various little sweets and dainties from the apple, the cherry, the currant and the maple, fabricated in the Kincaide home on Washington Island and brought over to gladden the annual lighthouse visit. For music there was a phonograph—wailing muted melody through the slats of the chicken-coop that sheltered it from the wind—supplemented by a jew's-harp and an accordion. And when these failed, we joined in lusty choruses of old songs that we all knew, with the half-remembered words clipped short on the lips of wind-muffled mouths. What had been planned as a roaring camp-fire of driftwood was the only failure. We had to carry water from the lake to put it out after the gale began scattering the sparks a hundred yards inland to the brushy edge of the forest.

The wind was down the next morning, June 20th, but the barometer remained low, with a murky haze to the southwest, indicating that the weather was still sulking and meditating mischief. Kincaide shook his head over the thinly veiled menace and consented to my pushing on only after I had promised to make the fifty-mile run to Manistique the first leg of the traverse to the Straits of Mackinac. I fell in with the idea readily enough, for while it would carry me a considerable distance from the direct course, it insured a sheltered harbor in event the weather turned bad again, as well as opportunity to get a proper forecast before heading off along the rough and almost uninhabited coast beyond.

When I got under way at eight o'clock there were only a few puffs of humid air purring languidly from the west, with almost no sea at all in the sheltered waters between the islands. The shoals surrounding the Gulls were outlined clearly in the bright sunlight, so that I was able to ignore the buoyed channel and shoot straight across on a direct east-northeasterly course to the passage between Poverty Island on the south and Summer Island on the north. Two miles due east carried me over the shallows south of the latter island, and to a position from which I could head north-by-east to clear the out-thrust headland of Detour, on the mainland. The direct course to Mackinac from here would have taken me straight out into the lake, to pass close to Beaver Island and its satellites and on to the Straits by the regular north-and-south steamer track. With this course carrying me thirty to forty miles from land at points, I had never seriously considered taking it at any time since discovering the Great Lakes were not always as smooth in real life as upon the map. The old point-to-point (and even cove-to-cove in emergency) course of the early voyageurs was quite good enough for me along the north coast Lake Michigan. Or at least that was the way I felt about it the morning I resumed my voyage from St. Martin's. That four days' close-up of the ways of a wind with soft green water had not been without its chastening effect.

It was a beautiful run as far as Point Detour, the only fly in the ointment coming in the rather too literal form of a cloud of gnats, apparently carried lakeward from the mainland on the warm morning breeze. Although without the mosquito's lust for human blood, they were still highly annoying in their delight in wallowing in the pungent anti-insect dope with which I had anointed all exposed cuticle for the purpose of scaring them away.

I had been smearing off gnats with a case-knife blade for half an hour when I became aware of a heavy whistling roar, hurtling through the humid air from the southwest. A hundred times heavier than the deepest-toned steamer whistle, the weird sound set the atmosphere throbbing as from the rumble of a distant cataract. It was the regularity of the roars that revealed their identity, and I remembered the huge boilers in the brick structure beside the St. Martin's lighthouse tower, with the scores on scores of cords of wood stacked up to feed into the capacious maws of their fire-boxes as emergency arose. So clear was the air in my immediate vicinity that I had almost persuaded myself that Dave Kincaide was limbering up his giant fog-horn only for practice, when a solid wall of vapor rolled into the lake, blotting out Poverty and Summer Islands with a grey-white shroud of apocryphal as it came. Five minutes later the vanguard of the fog was rushing past me, quenching the gold of the streaming sunlight and leaving the motor spattering mist-muffled pops in the heart of an inverted bowl of dripping, sodden grayness.

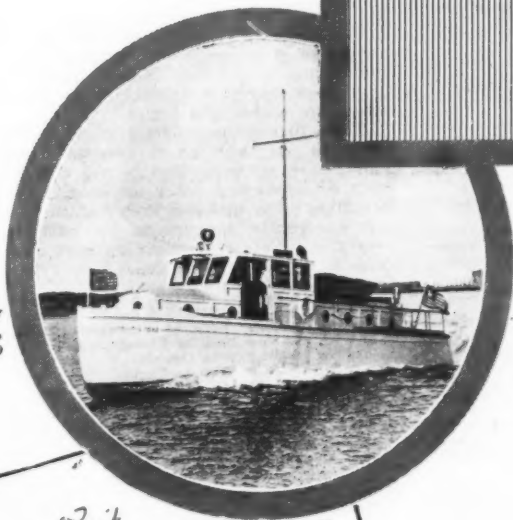
Taking hurried bearings before the last of the mainland was masked by the scurrying fog-banks, I made out my position as

(Continued on page 92)

The AUTOPULSE is a magnetically controlled fuel supply unit which draws the gasoline from the supply tank and delivers it to the carburetor by the pumping action of a brass bellows, energized from the battery. Output is controlled by carburetor float valve—rated capacity of a unit is eight gallons per hour, with a maximum capacity of twelve gallons per hour. The AUTOPULSE is built in one size only and is supplied for operation with six or twelve volts. If additional pumping is required, two or more units are connected together in parallel. It is the only device of its kind that will expose a faulty condition of the fuel line.



RIV-17, Owned by  
Oscar L. Smith,  
Equipped with IMCO  
AUTOPULSE.



## PERFORMANCE

The permanent advantages of the IMCO AUTOPULSE Fuel Supply System are paramount as attested by almost the entire marine industry, the engine manufacturers, boat builders, and the ultimate user, the boat owner.

The performance of the AUTOPULSE has been most successful in every test it has been subjected to, as it has come through with a perfect score. It pumps gasoline from the tank to the needle valve of the carburetor of any engine as fast (and only as fast) as the fuel is required. Equipped with this system, motors are capable of feats of power they cannot equal when provided with less positive gasoline supply system. It decreases fire hazard and does away with the many complexities and annoyances of the vacuum and air pressure systems. For better engine performance—equip your boat with an AUTOPULSE.

For Full Particulars Write to

**Ireland & Matthews Mfg. Co.**

1500 Beard Ave.

Detroit, Mich.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 110 West 40th Street, New York

*On board yacht Riv-17  
April 9th - 25  
at Fort Randall, Pa.  
Hall-Scott Motor Car Co.  
Dear Sirs— I want to thank you for  
sending me your nice  
representative Mr. Hoyt and  
please accept appreciation  
of his good work and your  
consideration in exchanging  
vacuum pumps for Autopulse  
electric pumps. As per my work fine  
and indicate improvement in  
a permanent improvement in  
the fuel system.  
The two motors are  
great. I am more than pleased  
with the installation and the  
Riv-17 is making a good  
impression where we are.  
Sincerely,  
Oscar L. Smith.*



# Another New Book

# Where To Cruise

By F. W. Horenburger, C. E.

*2nd Edition of MoToR BoatinG's Book of Motor  
Boatmen's Charts with Valuable Cruising Data*

37 detail charts of the eastern seaboard, sounds, bays and harbors, covering the entire Atlantic coast from Maine to the Gulf of Mexico.  
10 detail charts of rivers, inland lakes and canals.  
9 detail charts of the Great Lakes.

56 charts in all, attractively and durably bound in a book measuring 8½ x 11½ inches.

Chart No. 1—Western End of Long Island Sound  
Chart No. 2—Eastern End of Long Island Sound  
Chart No. 3—Block Island Sound  
Chart No. 4—New York Harbor  
Chart No. 5—Boston Harbor  
Chart No. 6—Buxards Bay  
Chart No. 7—Block Island to Vineyard Sound and Narragansett Bay  
Chart No. 8—Delaware River and Bay  
Chart No. 9—Chesapeake Bay—Part 1  
Chart No. 10—Maine Coast  
Chart No. 11—Hudson River, Kingston to Albany  
Chart No. 12—Chesapeake Bay—Part 2  
Chart No. 13—Lake Erie, Eastern End—Part 1  
Chart No. 14—Lake Erie, Western End—Part 2  
Chart No. 15—Hudson River, New York to Kingston  
Chart No. 16—Lake Champlain, Whitehall to Rouses Point  
Chart No. 17—The New York State Barge Canal System  
Chart No. 18—Massachusetts Coast, Scituate to Newburyport  
Chart No. 19—Massachusetts Coast, Newburyport to Cape Elizabeth  
Chart No. 20—Cape Cod Bay, Massachusetts  
Chart No. 21—Coast of Maine, Monehegan to Isle Au Haut  
Chart No. 22—Chesapeake Bay, Cove Point to Smith Point—Part 3  
Chart No. 23—Biscayne Bay, Florida  
Chart No. 24—Thousand Islands, Wolfe to Grenadier Island  
Chart No. 25—Delaware River, Trenton to Philadelphia  
Chart No. 26—Delaware River Philadelphia to Smyrna  
Chart No. 27—New Jersey Coast, Cape May to Little Egg Inlet  
Chart No. 28—New Jersey Coast, Little Egg Inlet to Bayhead  
Chart No. 29—New Jersey Coast, Bayhead to New York Harbor  
Chart No. 30—Chesapeake Bay, Smith Point to Cape Charles  
Chart No. 31—Potomac River, Entrance to Lower Cedar Point  
Chart No. 32—York and James Rivers  
Chart No. 33—Delaware Coast, Cape Henlopen to Chincoteague Inlet  
Chart No. 34—Virginia Coast, Chincoteague Inlet to Cape Charles  
Chart No. 35—Virginia Coast, Cape Henry to Albemarle Sound  
Chart No. 36—Albemarle Sound, North Carolina  
Chart No. 37—Pamlico Sound, North Carolina  
Chart No. 38—North Carolina Coast, Core Sound to New River Inlet  
Chart No. 39—Carolina Coast, From Cape Fear to Winyah Bay  
Chart No. 40—South Carolina Coast—From Winyah Bay to St. Helena Sound

Chart No. 41—Georgia Coast—From St. Helena to Doboy Sound  
Chart No. 42—Lake Michigan, Southern Part  
Chart No. 43—Lake Michigan, Northern Part  
Chart No. 44—Lakes Michigan and Huron  
Chart No. 45—Lake Huron  
Chart No. 46—Coast of Georgia  
Chart No. 47—Florida Coast  
Chart No. 48—Florida—Cape Canaveral to Miami  
Chart No. 49—Lake Ontario—Western Part  
Chart No. 50—Lake Ontario—Eastern Part  
Chart No. 51—Nantucket Sound  
Chart No. 52—Long Island Sound, Oyster and Huntington Bays  
Chart No. 53—New York to Boston  
Chart No. 54—Boston to Eastport  
Chart No. 55—Trent Waterway, Ontario  
Chart No. 56—Connecticut River

THE most suitable courses from all principal ports and harbors are given on these charts, as well as magnetic courses and bearings, distances in statute miles, all principal lights, buoys, etc. All charts are drawn to scale. They have proven invaluable to motor boatmen while cruising or planning a cruise.

Much other cruising data is given in the book, such as where to purchase the various government charts and publications, notes on how to use charts, the characteristics of lights and other major aids to navigation, information as to fuel and supply stations, etc.

A number of suggestions for interesting cruises and several complete cruises are outlined as follows:

Cruise No. 1—New York to Albany  
Cruise No. 2—Albany to Buffalo  
Cruise No. 3—Albany to Thousand Islands via Champlain Canal, Lake Champlain, Montreal and St. Lawrence  
Cruise No. 4—New York to Thousand Islands via Barge Canal  
Cruise No. 5—New York to Philadelphia  
Cruise No. 6—Buffalo to Detroit  
Cruise No. 7—New York to Florida  
Cruise No. 8—Miami, Florida, to New Orleans  
Cruise No. 9—New York to Boston  
Cruise No. 9A—New York to Boston  
Cruise No. 10—Boston to Eastport, Maine  
Cruise No. 11—Trent alley Waterway  
Cruise No. 12—Connecticut River

No motor boatman should be without a copy of "Where to Cruise" (Vol. 6) MoToR BoatinG Ideal Series

Price \$2.00 per copy

## PILOTING, SEAMANSHIP & SMALL BOAT HANDLING

By Charles F. Chapman

*A wonderful illustrated course in Piloting, Seamanship and Small boat handling, published in complete book form and profusely illustrated with nearly 300 cuts and diagrams*

INSTEAD of page after page of dry text matter with only occasional illustrations, this text book of small boat seamanship is composed mainly of pictures, drawings, photographs, charts and diagrams covering every situation and every point, with the purpose of each picture clearly explained by a concise and simple title.

You will find this book more enjoyable and easier to understand than any text book you ever read. You will find it correct and authoritative because it has been prepared by experts with years of boating experience and every necessary reference at hand.

Price, \$2.00

Send your order today

Foreign Postage: 50 cents extra

MoToR BoatinG, 119 West 40th Street, New York, N. Y.

# ERICO Accessories

## Make Better Boats



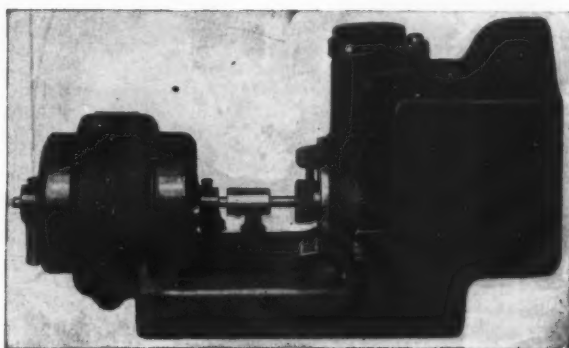
ERICO  
Column  
Spark and  
Throttle  
Control



ERICO Universal Stuffing Box and Shaft Log

WHEN you buy ERICO Accessories you can do so with the same confidence that the country's best boat builders and naval architects have in ERICO Accessories. Whether you need just a fender hook or a set of sash hinges (anti-rattlers) you will find that those bearing the name ERICO have the same fine rugged design and superlative quality that has made the larger ERICO units famous.

The ERICO Electric Bilge Pump is a convenience and necessity on every motor boat. It is a compact, independent unit of small dimensions ( $13\frac{1}{2}'' \times 5\frac{1}{2}'' \times 7\frac{1}{2}''$ ) and large capacity (10 gallons per minute). A turn of the switch starts the pump working immediately. No priming. The chamber is so constructed that it retains water when idle, and thus preserves the prime. Can be installed in any out of the way place, saving useful room for other purposes.



ERICO Electric Bilge Pump  
24, 32 and 110 volt sizes.



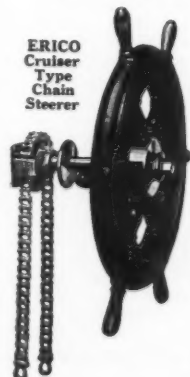
ERICO  
Throttle  
and  
Clutch  
Levers



ERICO Electric  
Searchlight,  
Cabin Control



ERICO  
Bulkhead  
Spark and  
Throttle  
Control



ERICO  
Cruiser  
Type  
Chain  
Steerer

Write today for Catalog

### HUBBARD HERRICKSON & Co.



3037 N. Western Ave.

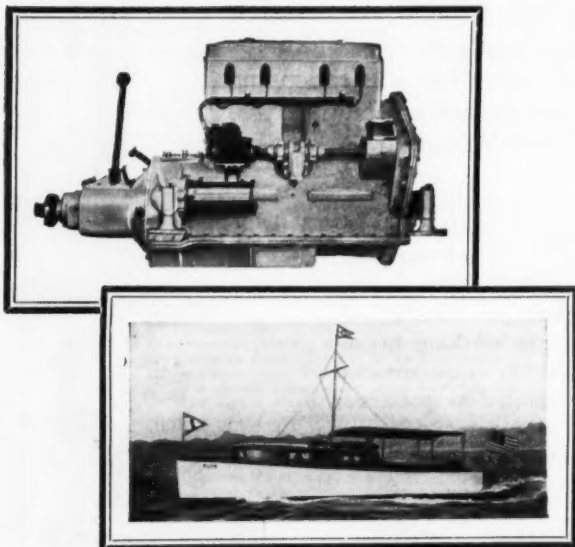
CHICAGO, ILL., U. S. A.



ERICO  
Cast  
Aluminum  
Cowl  
Ventilator



**The World's Largest  
Builders of Standardized  
Boats Use W-S-M  
Marine Engines as  
Regular Equipment**



*The Elco 34 foot Cruisette, one of the standardized Cruisers built by The Elco Works, Bayonne, New Jersey. This company powers all of its boats, from 30 to 56 feet in length, with W-S-M marine engines.*

**T**HE Elco Works of Bayonne, N. J., have always endeavored to produce the finest boats to sell at a moderate price. More Elco boats are in service than any other make of standardized cruisers. The Elco Works power their 30, 34, 45 and 56 foot cruisers with W-S-M engines because Elco's own experience has taught them that a better engine of its size is not built.

It is the best engine for *your* boat too.

**Medium Duty**  
28-46 H.P.  
600 to 950 R.P.M.  
Weight 1450 lbs.

**High Speed**  
48-60 H.P.  
1000 to 1400 R.P.M.  
Weight 1350 lbs.

Retenable Cylinder Walls—Overhead Valves—Sliding Reverse Gear—  
High Pressure Lubrication—Swiveled Three Point Support

Write today for catalog "M G"

**WILBUR H. YOUNG, Sole Distributor**  
522 Fifth Avenue New York

Telephone: Murray Hill 8160, 8161

Manufactured by The Wellman-Seaver-Morgan Company

## By Waterways to Gotham

(Continued from page 88)

almost abreast of Point Detour, distant about a mile. Ahead, as shown by the chart, was a coastline scalloped by shallowly indented bays and running on in a general northeasterly direction to the mouth of the Manistique River, for which I was heading. There were two possible dangers to be avoided, neither by any means negligible. One was that of heading too far lakeward and so being caught out of reach of land if the lurking disturbance off to the south moved up the lake again; the other was that incident to getting off the course in the opposite direction and bumping into shoals. Anxious to know just what to expect in the latter line, I shut off the motor and let the boat drift while I turned up a paragraph in the Survey headed Between Point aux Barques and Point Detour. The whole was in the nature of a warning to give wide berth to a stretch of coast which appeared to be as thickly fringed with reef and shoal as a South Sea atoll. One passage, referring to points which the chart showed to be only a few miles ahead, was distinctly disturbing. This read as follows:

"Between Parent Bay and Portage Bay the coast is filled by rocks and shoals with very little water on them, the maximum extent being at the northeast point of Portage Bay, where a spit that is nearly exposed in places reaches two miles to the southeast."

Between the certainty of hitting a reef and the chances of getting lost in the fog with plenty of water under the keel, I unhesitatingly plumped in favor of sea-room as against the rocks. Starting the motor again, I took out my pocket compass and laid a course for the open lake. Or rather, I laid a course which I *thought* would take me to the open lake. It was probably the fact that I set the compass (normally a fairly good little instrument of its kind) too near the head of my mushroom anchor to give it a fair chance to function that was responsible for the fact that I headed in quite the opposite direction.

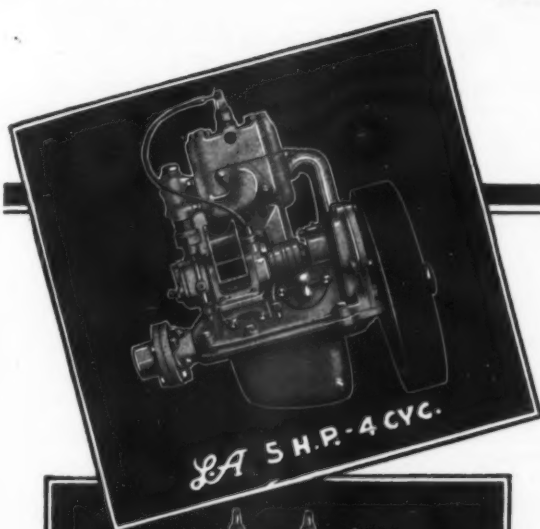
The fog was so dense that not over twenty feet of gray-green water showed inside of the mist-curtain ahead, and with no light striking through from above, the depths were as dully translucent as the surface of ground glass. The smooth, rounded rock that stopped us seemed to come bounding up through fog and water like a diving seal. It was fortunate that the engine was throttled down to the last notch; also that the blow was received and absorbed by the stout oaken forefoot before the propeller grounded. Both the motor and myself tilted automatically at the impact, and of the two my own recovery was the quicker. Bouncing back from the spring-steel hoop of the spray-hood against which my surprised anatomy had been flung, I regained the stern of the boat in time to shut off the engine almost as soon as the half-uncovered propeller began to race. That allowed the bows to slide back into the water from the sloping side of the rock and gave me a chance to collect my wits and my cargo. With practically no sea at all running, it was possible to proceed with both operations without haste.

Built to withstand just such a collision, damage to the boat was hardly more than paint-deep. Everything loose had been carried ahead by its momentum, but the closest survey of the forward compartment failed to reveal the first sign of a starting leak. Retrimming my load and truing up the spray-hood, crushed down under my weight, was the matter of but a few minutes. All snug again, I looked about to discover, through a momentarily lifted flap of the fog-curtain, that I was drifting within a hundred feet of rocky beach closely backed by a thick wall of forest. Black turtle-backed rocks, like the one with which I had collided, carpeted the floor of the cove on all sides, most of them just under the surface of the water. In a shallow pool on a limestone shelf a stranded fish flapped weakly, jealously watched by a pair of gulls and a lone kingfisher. Where the waters of a little spring tumbled down the rocks a bevy of robins shivered, as though waiting for the sun before taking their morning baths. From a birch at the edge of the woods came the clear, sweet notes of a thrush, a challenge to the fog that might dampen plumage but could not quench the fire of inward ardor.

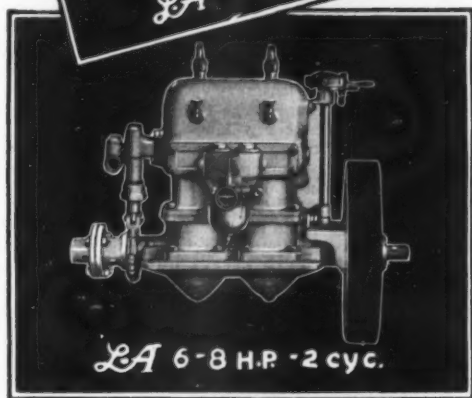
It was a wonderfully snug little haven to have remained in for the lifting of the fog, but the quietness of the air and water finally decided me in favor of saving what time I could by feeling my way along up the coast at reduced speed. Pulling out where the water seemed to deepen again, I headed away under throttled motor in an endeavor to parallel the shore, as closely as possible without completely losing touch with it. A sharp watch prevented another collision, but the shifting fog made the shore-line as elusive as a will-o'-the-wisp. The fact that it seemed to be winding round and round on itself in narrowing circles like the spiral of a snail's shell was doubtless an illusion fostered by the necessity of turning constantly to port to regain touch with the fugitive blue-black blur which betokened land.

(Continued on page 94)

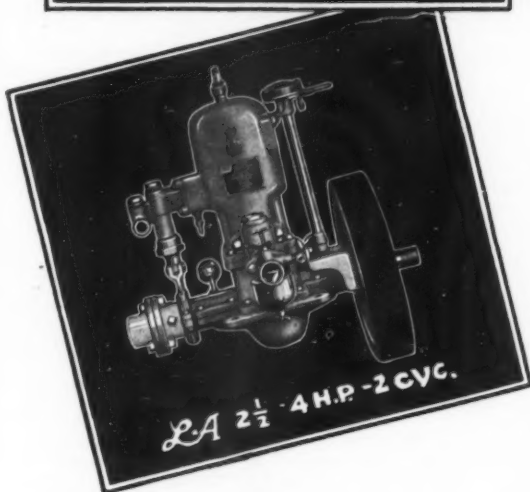




L-A 5 H.P. 4 C.V.C.



L-A 6-8 H.P. 2 c.v.c.



L-A 2 1/2 4 H.P. 2 C.V.C.

L-A MODEL 41 FORD PART ENGINE—Single cyl., 4 c.v.c., 5 H.P. Motor. Built around Ford sized parts—replacements anywhere. Has Bosch Magneto and Impulse Coupling as standard equipment. Battery ignition in place of magneto, if desired. Many desirable features. Weighs approximately 165 lbs. Detailed information on request.

L-A MODEL 68—6 and 8 H.P. 2 cyl.-2 c.v.c. Engines 6 H.P. for 15 ft. to 24 ft. craft. 8 H.P. for 20 ft. to 30 ft. craft. Equipped with battery ignition. Bosch Magneto and Impulse Coupling, if desired. Smooth running—easy starting powerful—silent—clean—pleasing in appearance. Write for complete information.

L-A MODEL 24—2 1/2 and 4 H.P. Single cyl.-2 c.v.c. Engines, 2 1/2 H.P. for 14 ft. to 18 ft. craft. 4 H.P. for 16 ft. to 20 ft. craft. Equipped with battery ignition. Bosch Magneto and Impulse Coupling, if desired. Simple—sturdy—easy starting—easily maintained. Ideal for inland lakes and rivers. Write for detailed description.



L-A Twin

## L-A Motors are reliable under all conditions

OWNERS everywhere testify to the proven reliability of L-A marine motors. No matter what the conditions are—in racing craft, in work boats, for general pleasure use—L-A Motors repeatedly demonstrate their sturdiness, their simplicity, and their dependability.

Twenty-two years of sound engineering practice stand back of this record—22 years of constant experiment and progress. Today L-A motors—the L-A Twin in the outboard class and the Model 41, Model 68 and Model 24 in the inboard group—have made good with owners throughout the entire country. The Lockwood-Ash proposition to dealers is an interesting one. Write for complete information.

## L-A Twin

SPEEDIEST outboard motor of its weight and rated power. Weighs 52 lbs. complete, and develops full 3 H.P. Has most powerful magneto in outboard field; specially designed float feed carburetor; rope and rudder steering (McNab-Kitchen rudder as an extra, if desired); Indestructible gas tank; under-water parts made of non-corrosive aluminum alloy; quiet exhaust; Alemite lubrication. Automatic Tilting of friction type and patented L-A Slipping Clutch Propeller provide positive protection against damage from under-water obstructions.

# LOCKWOOD-ASH

- MOTOR - COMPANY -

517 Jackson Street

Jackson, Michigan

Builders of Marine Engines for 22 years

LOCKWOOD-ASH DISTRIBUTORS

BROOKLYN, N. Y.: Hyde Boat & Engine Co., 55 4th Ave. NEW ORLEANS, LA.: Arthur Duvic's Sons, 122 Chartres St. SEATTLE, WASH.: Pacific Marine Engine Company, 906 Western Ave. NORFOLK, VA.: Mianus Diesel Engine Co., 116 Boush St. NEWPORT, ARK.: Henry M. Owen. JACKSONVILLE, FLA.: Burroughs-McMeekin Co., 30 E. Bay St. TAMPA, FLA.: Knight & Wall Co. MONTREAL, QUE., CAN.: F. I. Mitchell, 633 Notre Dame St. E. ST. LOUIS, MO.: Wm. Grossmann, 1630 Pine St. HARBINGER, N. C.: R. L. Gallop Hdw. Co. PORTLAND, ME.: Mianus Motor Sales Co., 19 Custom House Wharf. LOS ANGELES, CALIF.: V. L. Walker, 601 W. Fairmount St. (Glendale). SAN FRANCISCO, CALIF.: Hart L. Weaver, Bush & Van Ness Sts. FACTORY REPRESENTATIVE FOR PACIFIC COAST, Gordon Snedeker, 1217 J St., Sacramento, Calif. FOREIGN EXPORT OFFICE: 116 Broad St., New York, N. Y., Harold Fee, Mgr.

# "New Jersey"

## Marine Paints & Varnishes

**Copper Paint**  
**Yacht White**  
**Ship & Deck Paint**  
**Spar Varnish**  
**Copper Bronze**

For Bottoms "New Jersey" Copper Paint Red, Brown or Green. For above the waterline "New Jersey" Yacht White will stand washing and scrubbing. "New Jersey" Spar Varnish will not turn white and holds its gloss.

Write for Booklet, "Davy Jones' Locker," About Paints and How to Use Them.

**NEW JERSEY PAINT WORKS** HARRY LOUDERBOUGH, INC.  
WAYNE AND FREMONT STREETS, JERSEY CITY, U. S. A.

# DOMAN

OSHKOSH, WIS.

**DOMAN**  
**"BULLDOG"**

**Extended**  
**base and**  
**Reverse**  
**Gear**

**Five Year**  
**Guarantee**

SMALL boat owners choose the Doman Bulldog as the most serviceable 5 H.P. four cycle engine suitable for their requirements. And why? One reason is the 35 years experience in marine engine building and designing that is back of it. Other reasons are its durable construction and advanced design embodying overhead valves, removable cylinder head, one piece drop forged cam shaft hardened and ground, cut semi-steel gears, and ball thrust bearings. Bearings are bronzed backed, die cast, removable and interchangeable.

**4-5 H.P.**  
**Four Cycle,**  
**Bore 3 $\frac{3}{4}$ "**  
**Stroke 4 $\frac{1}{2}$ "**

**Write**  
**Today**  
**For**  
**Catalog**

**DOMAN ENGINE DIVISION**  
Universal Products Co., Oshkosh, Wisc.

## By Waterways to Gotham

(Continued from page 92)

Progress was painfully slow, and it was with real relief that a sudden shower of golden glimmers through the mists marked the passing of my first and my last Great Lakes fog.

The fog, which had sponged the clinging humidity out of the air in its passing, seemed also to have left the prospects of better weather in its wake. There was brilliantly clear sky overhead, while the bank of muddy murk to the southwest had receded and paled to a less menacing somber gray. The brisk southerly wind was keen and bracing—snappy with ozone.

Running out a couple of miles, I headed up for Manistique, still obscured by the rolling fog-bank to the north. Helped materially by the freshening wind, I bowled along at a lively rate until a horizontal ruffle of foam ahead charted the long, thin reef thrust out, poinard-like, from the tip of Wiggins Point, four miles north of Point aux Barques. Running in until the dervish-dance of golden light-motes warned of a shoaling bottom, I shut off the engine and drove on through the flashing foam-flecked combers under oars. This was a half-mile inside the red gas and bell buoy marking the channel beyond the end of the shoal, but there was plenty of water all the way across for my few inches of draught. Three or four uncovered rocks bared warning fangs at me as the boat was swept by, but the thicker welter of white revealed their positions well in advance and it was not hard to avoid solid contact. In a storm, between uncovered rocks and heavily breaking waves, it might have been hard to avoid foundering here; with the light wind and seas I had it was about like running a fairly rough rapid with an unusual amount of time to pick a course. It could probably have been managed with the engine, but the few minutes to be saved by running under power were not worth taking the chance of disabling my capable little kicker.

With the sun mopping up the last of the fog ahead, the smoke-clouds above the mills of Manistique began rearing their inverted spirals against the sky, a dark, slaty blur at water level revealing the easterly curve of the coast where it looped round to Seul Choix Point, with its white finger of lighthouse tower pricking the haze just forward of the starboard beam. With Seul Choix directly on my course to Mackinac, and with Manistique many miles off, there was strong temptation to save time by running direct for the lighthouse station on the historic point. A sudden freshening of the wind conspired with Kincaide's warning about not passing Manistique without getting a weather forecast, to hold me to my original course. Consoling myself with the thought that there would still be time to push on to Seul Choix before dark anyhow, I laid a course for the light-houses on the ends of the harbor breakwater and drove ahead before the now sharply blowing southeast wind. Until I was within half a mile of the entrance of the following, wind and waves were a real help, giving the boat all of a knot and half extra sped. Then the seas began to shorten and steepen in a way not entirely to be accounted for by the shoaling water, and which I learned later was due to the current of the river meeting the rising tide blown in from the lake by the wind. Between the ends of the piers at the entrance the waves were actually combing over and breaking in the middle of the 18-foot channel, so that the boat shipped much solid green water as she yawed to port and starboard, while the outraged motor coughed indignant protest at by far the worst drenching it had yet received.

The performance must have looked a good deal worse to a spectator than it seemed to a participant. Two boys, fishing on the east pier of the breakwater, dropped their poles and ran into the tower of the lighthouse to call the keeper. Roused from his sleep, that worthy gave one look from the door through blinking eyes and began bawling through his megaphone for a launch to put off from the fish-docks a quarter-mile up harbor. Then he dashed down the steps, jumped into his skiff, and started to push off on a rescue party of his own. The fact that I missed few if any of the details of his frantic efforts to keep from falling overboard when the boat came to the end of the painter he had neglected to cast off is the best evidence that I was not in serious straits myself. A sharp turn to starboard a hundred yards inside the entrance took me into quiet water in the lee of the curving east pier.

Approaching the picturesque row of fish docks along the east bank of the river, I was confronted with the phenomenon of a rapid in-running current where I had expected a set in quite the opposite direction. One of a number of fishermen busily engaged in taking up the slack of the mooring lines of their boats paused a moment to explain what was wrong. Heavy southerly winds, he said, had the effect of shoving ahead of it a body of water which acted like an ocean tide all along the north coast of the lake. The water of the Manistique River had already been backed up to a rise of over a foot at the docks.

(Continued on page 96)



All Columbian Equipped



*Cap'n Allswell says:*

**"Gloucester fishermen know a thing or two about propellers!"**

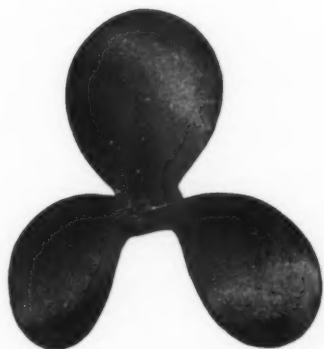
Getting to the fishing grounds and back is as important as making a good haul.

To those boat owners who do not know from experience the speed, long life and security of a Columbian Propeller, the fact that the greater portion of the general fleet of Gloucester boats have Columbian Propellers should mean a great deal.

There are many well-known companies in this fleet. Notable among them is the Gorton-Pew Fleet, which is driven entirely by Columbians.

There is a Columbian for every boat, from the smallest power boat to the transatlantic liner. Write for complete information.

THE COLUMBIAN BRONZE CORPORATION  
204 N. Main St., Freeport, L. I., N. Y.



**COLUMBIAN**  
*BRONZE*  
**PROPELLERS**



## Everybody's RUNABOUT and LAUNCH

Our 20-ft. runabout and launch gives you more value per dollar than many motor boats at double its price. Large seating capacity.

### 20-Ft. Runabout

Powered with Ford motor, Bar-Ford equipped with electric starter and generator.....	\$895
Powered with International motor, with reverse gear and rear starter.....	955
Powered with ZB Gray motor, Bosch magneto and impulse starter, with reverse gear and rear starter....	1,000
Our special runabout is powered with a 14-30 H.P. Buffalo motor, mahogany trim, brass fittings. Speed, 18 miles. ....	1,345

### 20-Ft. Launch

Powered with Ford motor, Bar-Ford equipped.....	\$750
Powered with International motor, with reverse gear and rear starter .....	875
Powered with ZB Gray motor, Bosch magneto and impulse starter, with reverse gear and rear starter....	1,000
The above prices are for delivery in the water at our yard. If to be crated F.O.B. Mamaroneck, add \$30.	

These stock boats are exceptional values.

10-ft. lap-stroke rowing tenders.....	\$150
16-ft. x 6-ft. stock launch.....	600
14-ft. sailboat .....	175

Write for descriptive literature.  
Let us quote on your custom work.

Boat Department

**SOUND MACHINE SHOP, Inc.**  
**MAMARONECK, NEW YORK**

## B. Schellenberg & Sons



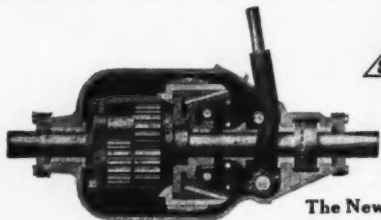
**EVERYTHING FOR THE PERSON OF THE YACHTSMAN, HIS OFFICERS AND HIS CREW**

Clubs, yacht owners, commercial boat owners should take advantage of our almost 70 years' experience in outfitting the mariner, both inland and deep sea.

Crews and Club attendants furnished without charge.

**B. SCHELLENBERG & SONS**  
Established in 1857

99 to 105 Myrtle Avenue  
(Near Bridge Street), Brooklyn, N. Y.  
Telephone: Cumberland 0804



The New Standard

The Standard Multi Cone Clutch is the most positive, yet most easily operated motor boat gear control on the market. The cones cannot buckle, warp or stretch, and the longer they are used, the better they get. A feature of the new clutch is its easy adjustment.

Write for 1924 catalogue and complete information.

**STANDARD GEAR COMPANY**  
2819 BROOKLYN, DETROIT

## By Waterways to Gotham

(Continued from page 94)

and two or three feet more might be added before dark. The responsible wind, he added, was not the one which had been driving me along after the rising of the fog. That was only a stiff breeze. The force behind the making tide was a sustained blow which had probably been driving up the middle of the lake since early in the day. The worst of it might never reach the north shore at all, but just the same it wasn't a thing to take any chances with. All the fishing boats had already come back to port and none was going out. I might, of course, make Seul Choix Point lighthouse before the weather got too bad; and again I might not. As the intervening coast had not been designed to make forced landings easy, especially with only one man to the boat, he was inclined to recommend that I should lay up in Manistique for the night and see how the weather developed.

This sounded like reasonable advice, and I was all the more ready to follow it when I found that a large launch belonging to a fishing outfit just west of Seul Choix Point had postponed until the morning a departure announced for four that afternoon. The skipper of this launch (whom I presently learned was a member of the French-Canadian family of Goodreau, well known all along the north shores of Michigan and Huron as pioneer lumbermen, sailors and fishermen) very kindly offered me a berth alongside, with a place in his cabin to spread my bed for the night. He also suggested that I put in to his little natural harbor near Seul Choix Point and pay him a visit. We could make the run in company the following morning if the weather was favorable.

My thoroughly earnest efforts to secure the latest official weather forecast before leaving Manistique met with no success. The Coast Guard stations were along the main steamer track, now on the opposite side of the lake from that I was following. The latest bulletin at the post office was thirty-six hours old, with the weather it forecasted already a matter of past history. Rumor had it that a local radio operator received weather data, but him I was unable to locate either at his office or home.

Returning to the Goodreau launch, Gawask, to sleep for the night, I found the captain had come down from his home in the town to tell me that he had just had word of a raft of net-piling that was to be ready for him to take in tow for Seul Choix the next morning. As he would be delayed in getting away, with his progress very slow at best, he thought it would be preferable for me to start at daybreak so as to take advantage of the lighter airs usually prevailing earlier in the day. He still hoped I would lay over a day for a visit with him.

With the strange wind-driven tide lip-lapping higher and higher against the crumbling logs of the river-wall, and with inky masses of flying clouds alternately obliterating and revealing starry patches of the purple vault overhead, I kept the pioneer long into the night, drawing him with ready interest from yarn to yarn of his colorful years of hunting, fishing, trapping and lumbering in the times when (to use his own expression) there were men and trees with the bark on all over the Michigan peninsula. It was fortunate that I banked that gold of human experience while I had a chance. Neither the Gawask nor her skipper ever caught up with me, and subsequently, in St. Ignace, there was a report that both had taken the count in a bout with a mad maverick of a storm which the crafty Great Lakes Thunder God must have been extracting from his capacious bag of weather tricks even while the sturdy old pioneer drummed heels on the side of his deck-house and entertained an effete but kindred soul with tales of the days when trees died with their barks on and men with their boots, and nothing less than an axe would kill either one or the other.\*

\*Up to the time of writing I have never been able definitely to verify the report of the loss of the Gawask and Captain Goodreau. The latter's brother, whom I met in Mackinac a week after my departure from Manistique, had heard the report current among the fishermen but was inclined to doubt it. Letters of inquiry, sent to both Manistique and Mackinac, have been returned to me. Until I hear definitely to the contrary, however, I shall continue to hope that the sturdy launch aboard which I slept so snugly my night in Manistique is not included in the list of twenty-four craft reported by the Coast Guard Service to have been lost in last year's storms on the Great Lakes, and that the name of her rugged skipper is not on the roll of the several score sailors paying the supreme penalty during the same period.—(L.R.F.)

## A New Trouble Shooter

The Waterway League bulletin beginning with the June issue will carry a column devoted to technical questions and the troubles to which boats and marine engines fall heir. J. S. Lobenthal, General Manager of Bruns, Kimball & Company, Inc., will have charge of this column, and will place the technical knowledge of his firm at the disposal of the members. This is a very good opportunity to secure expert advice on troublesome problems, and questions can be sent to Bruns, Kimball & Company direct, at 50 West 17th Street, New York.

# Stays Put for Starting ~yet unlocks instantly



This shows the de luxe craft of the Evinrude family—the Round-Bottom model. Trim lines, luxurious finish, good speed and extraordinary seaworthiness combined. Full line stocked at New York, Chicago, Boston, Portland, Seattle and Oakland.

ANOTHER exclusive Sport Twin feature — another reason why other motors are not Evinrudes. No other motor can be locked in rigid position for easy starting — then unlocked instantly to tilt over anything. This brings a new perfection to the tilt-up idea which was first introduced and popularized by the Evinrude Motor Co., ten years ago.

Just lift the tiller handle, take a straight-line pull on the Easy Starter and away you go! No wobbling—motor won't pull toward you even a fraction of an inch.

Now lower the tiller. Silently—easier than the gear shift on your car—this unlocks the motor. Run over hidden rocks, logs, snags or shallows, beach or ground your boat—no harm can come of it. At the slightest blow on the rudder-type gear housing, motor tilts automatically—snubbing the shock and preventing injury to boat, motor and propeller. You want these features. Without an Evinrude you do without them.

Write for copy of the new 1925 EVINRUDE Year Book. Interesting and beautifully illustrated, with color plates showing Evinrudes in use in the picturesque waters of ten foreign countries. Mention if interested in our plan of easy payments.

EVINRUDE MOTOR COMPANY  
342 EVINRUDE BLDG. MILWAUKEE, WIS.

#### Distributors:

115 East 23rd St., New York, N.Y. 79 Columbia St., Seattle, Wash.  
259 Atlantic Ave., Boston, Mass. 137 McGill St., Montreal, Quebec  
117-119 Broadway, Oakland, Cal. 131 Front St., West, Toronto, Ont.  
211 Morrison St., Portland, Ore. 510 Johnson St., Victoria, B. C.



The New 1925 Champion  
**EVINRUDE**  
Sport Twin

# Yard and Shop

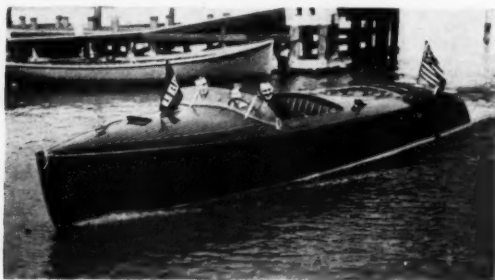
(Continued from page 60)

## The Day Cruiser Buffalo

Buffalo, built by William Fetterly for Mr. Vauhn of New Orleans, is a day cruiser with remarkable head room in all parts. She is 42 feet over all with 12 feet beam, V-bottom design. The power plant consists of two of the new six-cylinder type R Buffalo engines, which give her a speed of 38 miles per hour.

The beauty of Buffalo is not a matter of fancy finish, but in her lines and the excellence of her design. She was built for use on the waters of Lake Pontchartrain, which are often rough, so the bridge and all other parts of the boat are inclosed with plenty of ports for light and ventilation provided.

Aft of the chain locker is a toilet room, followed by a large and comfortable cabin which can be used for sleeping quarters when needed. On the bridge are all the instruments necessary for a modern twin screw installation. Immediately aft and below the bridge is the engine room. In the after cabin are two permanent berths and also the galley. The boat has a gasoline capacity of 600 gallons, which gives her a wide cruising radius.



J. A. Mitchell, an enthusiastic owner of one of the new super Bear Cats which he uses on Galveston Bay

## A New-Size Loew Knight

The announcement of The Loew Manufacturing Company of Cleveland that they are now producing a new-size Loew Knight Gasoline Marine Engine is welcome news to the many motor boating enthusiasts who are interested in the Knight type sliding sleeve-valve engine. The new engine is a four-cylinder, four-cycle, 25-40 h. p.  $3\frac{3}{4}$ -inch bore,  $5\frac{1}{4}$ -inch stroke, and is known as the Loew-Knight Model LKB.

This new addition to the Loew Knight line is exactly the same engine in everything except size as the bigger Loew Knights, which range from 50 h. p. to 300 h. p.

The policy of the makers is to produce a Knight type engine to meet the need of every boat owner who wants a high-grade gasoline engine, and with the addition of this new four-cylinder,

their line is comprehensive enough to accomplish that end.

Marine engine buyers may well feel gratified that a Knight type marine engine is now being produced by a company whose resources permit it to cover the field in a way that will meet the demand for this type of engine to the satisfaction of everybody. The new-size is now being produced in quantities, and immediate delivery is assured.

The weight of the L K B is 820 pounds and the power developed is from 23 h. p. at 800 r. p. m. to 53 h. p. at 1800 r. p. m.



A 33-foot cruiser owned by J. J. Wittwer, Jr., of Seattle, and powered with a Kermath 65-h.p. engine, which makes an easy 16 miles. In a letter to the Kermath Company he expresses his appreciation of the performance of the machine

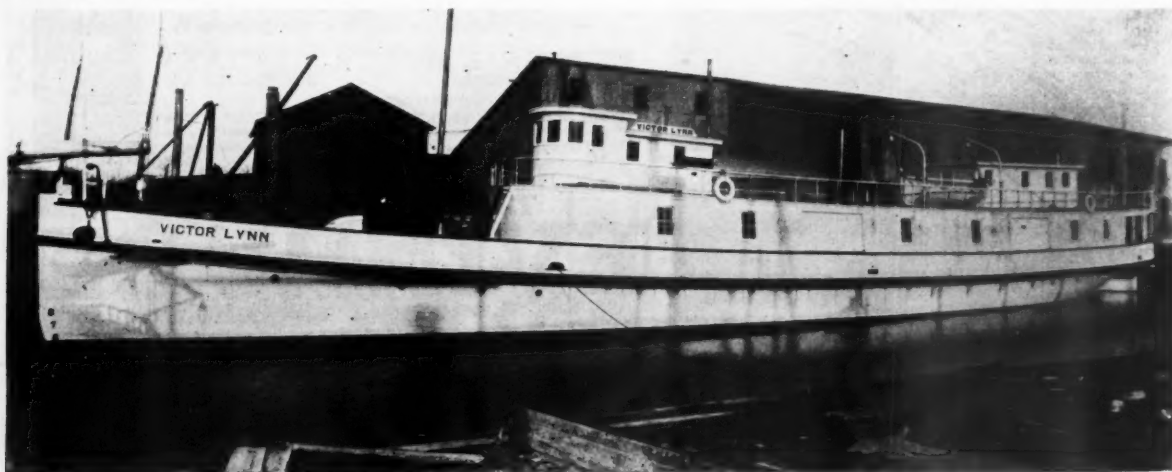
## Victor Lynn

When A. A. Wootten, of Salisbury, Maryland, planned Victor Lynn he had in view service, built up of reliability and at a low cost, and those who have traveled or shipped freight via Victor Lynn realize that Mr. Wootten will make money at a freight rate with which the old time steamboat cannot compete.

The Victor Lynn is 148 feet long, 25-foot beam and 6-foot 6-inch draft. She is rated 372 gross tons and is equipped with two 135 h. p. Standard Oil engines. With these engines turning two propellers 50 inches in diameter, 50 inches pitch—3-blade, 350 r. p. m.—Victor Lynn leaves either Salisbury or Baltimore every night and makes either Salisbury or Baltimore in a ten-hour run—a distance of 126 miles, at a fuel cost of but \$10.

The Victor Lynn has a wonderfully large and spacious deck carrying capacity, and this saves to Mr. Wootten thousands of dollars a year in stevedore costs. It is quite a wonderful sight to see Victor Lynn in a narrow river back on one engine and go ahead on the other and swing this large vessel handily in

(Continued on page 116a)



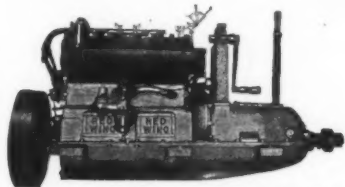
Victor Lynn, the 148-foot freight carrier, equipped with two 135-h.p. Standard oil engines



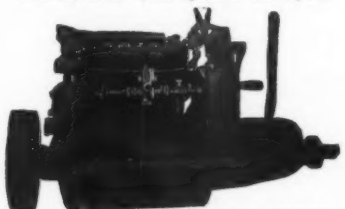
THE SUN NEVER SETS ON  
**RED WING THOROBRED**  
**MARINE**  
**MOTORS**

They Are  
Standard  
in Every  
Part of  
the Globe

The four-cylinder four-cycle BIG CHIEF Red Wing unit powerplants with FIVE bearing  $\frac{3}{4}$  inch diameter crank shaft; complete pressure feed lubrication to every working part with submerged yet easily accessible oil pump; Paragon reverse gear running in oil bath; double ignition system and electric starting equipment. Two sizes: BIG CHIEF, 50-60 H.P. (bore, 5"; stroke, 7"), and BIG CHIEF SPECIAL, 75-90 H.P. (bore, 5 $\frac{3}{4}$ "; stroke, 7"). Gray iron or aluminum base. Rugged cruiser or workboat engines.



Models F 28-36 H.P. and B 32-40 H.P. THOROBREDS with built-in Paragon reverse gear and pressure feed oiling system. Used in hundreds of substantial runabouts and cruisers. Four-cylinder four-cycle.



Model D 10-14 H.P. Baby Doll THOROBRED; bore, 2 $\frac{3}{4}$ "; stroke, 4". The perfect running engine for runabouts. Light weight, vibrationless, high speed.



The double cylinder four-cycle Model KK 7-8 H.P. Red Wing; bore, 3 $\frac{1}{4}$ "; stroke, 4 $\frac{1}{4}$ ". An elegant fishing boat or work engine. Furnished with or without reverse gear.

## WHY A "THOROBRED"?

Because it is an honestly built marine engine at a reasonable price, with lots of power for its weight, reliable and absolutely "guaranteed"; and backed by a Company which has been successful in the marine industry for over 24 years—because it is simple in design, with extra large working parts, insuring long life and economical upkeep—because it is quiet running, vibrationless, easy on gas and oil and has the most up-to-date equipment throughout—because THOROBREDS have made satisfied owners in every country throughout the world, and will do the same for you.

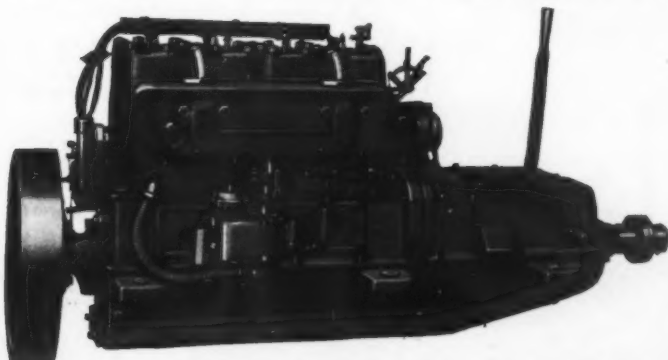
Write for new 1925 catalog describing in detail the nine four-cycle Red Wings from 4 to 90 H.P.

## RED WING MOTOR CO.

Red Wing

Dept. "B"

Minnesota, U. S. A.



The 1925 Model AA 18-24 H.P. Red Wing with enclosed Paragon reverse gear, detachable cylinder heads and hot spot manifold. Bore, 3 $\frac{3}{4}$ "; stroke, 4 $\frac{3}{4}$ ". Ideal for runabout, cruiser or workboat.

# De Paolo, Speedway Winner Praises

# SCRIPPS

## MARINE ENGINES



Peter DePaolo, before a crowd of over 145,000, smashed the world's record for the 500-mile mark, when he won in a hair raising finish the 500-Mile Indianapolis Speedway Classic on May 30th. His time was 4:56:39.

4205 Sunset Drive,  
Los Angeles, California,  
April 6, 1925.

Mr. A. J. Downey,  
Scripps Motor Co.,  
5817 Lincoln Avenue,  
Detroit, Michigan.

Dear Mr. Downey:-

Just a few lines to give you my impression of the Scripps F - 6 Motor, which I drove in the Biscayne Baby at Miami Beach, Florida, March 20 and 21.

I can only say the best for your motor. It had anything that one could expect of a first class motor. The acceleration was wonderful. It had power galore and, as we say in racing, it would stay put. - "CONFIDENCE" is the word when driving behind a Scripps Motor.

I will further add that I experienced a thrill that I did not expect in motor boating and I assure you I shall take advantage of accepting any future invitations to compete in any boat event that will not interfere with my automobile racing program.

Kindly extend my personal regards to Commodore Scripps and Bill Taylor. Here's hoping I will see you in the near future.

Sincerely yours,

*Peter DePaolo*

DE PAOLO, the crowned king of the Speedway, tells you in a few well chosen words why the SCRIPPS stands in the front rank among the marine motors—wonderful acceleration—power galore—the ability to stay put—performance that brings absolute confidence and lends an added thrill to the sport of motor boating. Every one of the ten Speedway stars, who sat back of this motor at Miami, voice the same opinion. And these boys do know motors. Why not cash in on their experience?



## Immediate Delivery

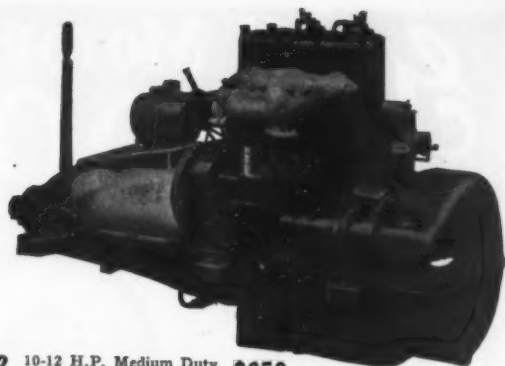
**D**ON'T fuss or fume over the old engine if it is worn out or not the right type for your boat—life's too short. Get fitted out right for a long time to come with a new SCRIPPS. We are giving twenty-four hour delivery service right now in spite of the fact that the SCRIPPS is the most popular and fastest selling high-class marine engine on the market. We saw the demand and prepared to meet it. Having the capital and manufacturing facilities, all production records were shattered during the winter off-season, so that there has been no delay in filling orders. Dealers' and customers' shipments are going out exactly as promised.

Learn what boating really means with a worth while engine! The slight additional cost means nothing compared to the annoyance and worry over a cheap article. Telegraph your order and deposit for express or freight delivery. There is a complete line to choose from—models for almost every type of boat. The prices, which include electric starter and battery, speak for themselves.

### SCRIPPS MOTOR COMPANY

5819 Lincoln Avenue

Detroit, Mich.



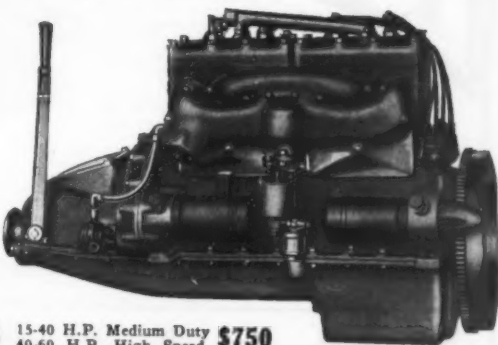
**D-2** 10-12 H.P. Medium Duty \$650  
15-18 H.P. High Speed.  
Including Electric Starter



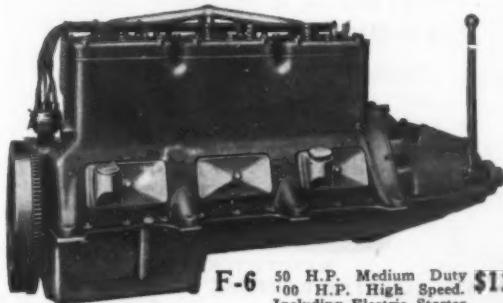
**E-4** 30-45 H.P. Medium Duty \$1250  
45-70 H.P. High Speed.  
Including Electric Starter



**E-6** 40-60 H.P. Medium Duty \$1750  
65-100 H.P. High Speed.  
Including Electric Starter



**F-4** 15-40 H.P. Medium Duty \$750  
40-60 H.P. High Speed.  
Including Electric Starter



**F-6** 50 H.P. Medium Duty \$1250  
100 H.P. High Speed.  
Including Electric Starter



# Gray MOTORS

For Fishing Boats.  
Work Boats, Trollers.  
Up to 8 H.P.

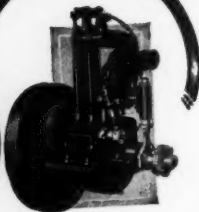
# \$ 99 Up

### Immediate Shipment This Month

Get your Gray motor early so you can enjoy a full season of thrilling pleasure. When you buy a Gray you get the benefit of thirty years' marine engine building; known and used all over the world. This year they are better than ever; smoother running, easier starting, no back firing, longer lasting and cost less to operate than others.

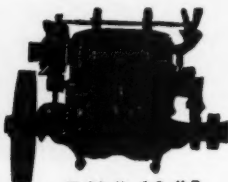
Gray Model U, 6-8 H.P. over 13,000 Model U Grays are in service today. As simple and trouble-proof as the best engineering practice makes possible. Only three moving parts—piston, connecting rod and crank-shaft. You could not get a better engine of its size at treble the price.

You  
Cannot  
Equal These  
Values



### Model O, 4 Cycle

New this year, the greatest one cyl. four cycle engine ever produced, an unequalled success. We could market this engine at a much higher figure and make big profits—but that is not the Gray policy. We want to give the world the greatest treat in engine value and the Model "O" is the treat of all treats. Like the famous Model "U" Gray. It has overhead valves and for its bore and stroke, 3 1/2" x 4 3/4" it produces the greatest power for fuel consumed of any engine in its class. Oversize construction throughout. Schebler carburetor with hot air connection to exhaust. Bosch magneto extra, water pump is very large and keeps engine cool when trolling as low as 125 R.P.M.



Model U, 6-8 H.P.  
2 cycle, 2 cylinder

Quick Delivery Guaranteed

Write for details today SURE

Gray Marine Motor Co. 6018 Lafayette Avenue, East Detroit, Mich., U.S.A.

# LOBEE CIRCULATING & BILGE PUMP

You can't get a better or more reliable pump than the Lobee because there isn't a better one made. It has been the World's Standard of Pump Quality for 25 years. No other pump has proven so popular in the marine trade.

Simple, compact, noiseless and positive. These pumps will outwear the engines to which they are attached.

Gear and Rotary Pumps from 3/8" to 1 1/2" suction and discharge. Different designs for various types of drive and mounting made to order.

Write today for catalog and prices  
Sold by Leading Dealers Everywhere

**Lobee Pump & Machinery Co.**  
1790 Niagara Street, Buffalo, N. Y., U. S. A.

# MASTER

BY NATURE AS WELL AS BY NAME  
Used by Many of the Foremost Engine Builders  
as Standard Equipment.  
MADE IN EIGHT SIZES—5 TO 450 H. P.

MANUFACTURED BY  
**MASTER REVERSE GEAR CORP.**  
166 SPENCER STREET CANASTOTA, N. Y.

## Cruise of the Yawl Savola

(Continued from page 15)

"Anyone who could make the cook of the Savola dance after fifteen years' abstinence had something more than the garden variety of kick, and he was a shrinking, modest cook at that.

"The Ball, what we saw of it, lasted seven hours. Six and a half of which were used up, in fact, annihilated, in the hearty encouragement of Foreign Trade, especially with the Bahamas and West India Isles.

"Turned in at 4 a.m., agreed that it was a gorgeously beautiful party, and as far as we could tell, all sober."

Saturday: Harold Toby asked Stuart Campbell and myself to sail a race in his 38-footer, Mazie. She is a marvelous racing machine, knockabout rig, and very fast. Unfortunately, we had very little wind and could not make a race of it.

Sunday: Left Larchmont Harbor for a day's sail. Made Greenwich, Connecticut, to see old haunts of my boyhood. It was here that we rented a cottage many years ago. The real estate agent carefully chose the time for us to see it. The lawn sloped down to a stone wall and a beautiful river flowing by, making a wonderful situation. But alas, when we came back, after signing the lease, the tide had gone out and left our beautiful river a bed of the blackest mud and terrific odor.

Monday to Thursday: These days were delightfully spent in short sails to nearby points. Among the many pleasant memories is a visit to the home of Senator Hicks and family at Port Washington. The Senator, besides being a good sailor, is an enthusiastic collector of ship models, and I might add, a collector of tools. I have never seen such a variety of chisels, saws, hammers, hatchets, braces and bits, all arranged on the wall in their respective sizes, the envy of all of us who enjoy to tinker.

Sunday:

Underway at 8:50 A. M. The crew consisted of my daughter Frances, just through college, Mr. and Mrs. Dick Dooner, and Lloyd Child, first mate. We used the reverse reading for our time and compass course and found it very interesting to see how closely we checked up on our sailing record. Our trip down past Hart's Island, Stepping Stones, and Hunt's Point, proved more exciting than the trip up, an account of the Sunday traffic. Every conceivable boat from a canoe to a Sound Steamer passed by. We went through Hell Gate under sail and power. Passed Brooklyn Bridge at 1 P. M., arriving at Sandy Hook at 5:30 P. M.

After swim and dinner, we went ashore at Sandy Hook and talked with Coast Guards. All seemed favorable for an early start in the morning for Barnegat Inlet.

Monday:

Underway at 6:20 A. M. Clear, light South wind. Bought three small fish at fish pound, 75 cents, New York prices. Tacked down coast under full sail all day against rough sea and increasing head wind. Savola proved able sea boat.

11:47 passing Asbury Park. Ran very close to bathers on beach and watched for weather signals on Coast Guard Stations.

Very heavy ground swell and strong current running North. Parted one of Starboard stays supporting main mast. Went over to port tack and made repairs. Lacing on jigger sail broke loose. This necessitated cutting sail loose from rings to get boom aboard ship to make repairs. It is always advisable to stretch a life line from bow to stern before starting on an outside trip. One never knows what repairs may have to be made. It began to look doubtful that we would make Barnegat Inlet before dark, necessitating spending the night at sea. Started engine in hopes of making Bell Buoy before dark. Sun dropping rapidly. Stuffing box leaking but engine pump keeping water down. Dusk and not much hope of reaching Inlet. Came up with fishing boats. Hailed a powerful big tug and asked Captain if he would tow us to Barnegat Inlet. We were glad to hear him say he was going that way as soon as all his boats were in, and would throw us a line.

We stood by and took in jib with difficulty as sea was running high. It was a great sight in the dusk to see this tug plowing through the sea directly for us. We were under power and helped in the maneuvering to catch the tow line. When this rope landed on deck it sounded like a ton of coal—about a three-inch hawser. We managed to make fast around our main mast and signalled to go. This meant full speed ahead. The blackest smoke I ever saw came out of the tug's funnel, blowing cinders directly astern and into my eyes. The Savola was being dragged bodily through the water at a speed that seemed more like an aquaplane than a dignified cruising yawl.

Our stern was a foot under water. I dare not take my eyes away from that smudge of blackness just ahead. With the rough sea and the speed we were going if we had veered the least bit I believe we would have turned over. It seemed like an hour but it only lasted twenty minutes. We were abreast

(Continued on page 104)



# Johnson

## The Outboard Motor without an "If"

**When the Wind Dies—**  
A Johnson Motor brings you home surely and comfortably. Auxiliary power compact enough to stow away easily.

L. J. JOHNSON definitely took the "ifs" out of outboard motor-boating in 1920 with the Johnson Motor.

In designing the Johnson, he approached the outboard motor from the *marine engineering standpoint*. As a means of transportation—not as a clever novelty. He demanded absolute dependability—and nothing short of it. *And he got it.*

\* \* \*

More Johnsons were sold during 1924 than any other make. The reason is easy to see when you consider these Johnson features:

**Adaptability**—The Johnson is the only outboard motor that can be instantly attached to all types of boats and canoes without altering any of them.

**Power**—The Johnson drives a rowboat from 7 to 9 miles per hour, a canoe from 9 to 12.

**Portability**—The Johnson is the only really portable outboard motor. Its complete weight—ready to run—is

### Only 35 Pounds

The Johnson is vibrationless. Its only sound is a gentle purr.

It is easy to start and safe to start at any temperature. Its float feed carburetor and rope starter take care of that—no knobs or handles to catch hands or clothing.

### Power Increased in 1925 Model

In the 1925 Johnson the power has been increased 25-30%.

# Johnson

## OUTBOARD MOTORS

**GET INTO THE BOAT AND SEE FOR YOURSELF**

Improved Super-Quick Action Magneto makes starting easier than ever.

Johnson Shock Absorber Drive (Patented) is standard equipment. This Drive permits running over submerged obstructions without injury to motor or propeller.

Yet the remarkable ready-to-run weight of only 35 pounds is retained. \* \* \*

There's a Johnson dealer near you who will be glad to give you a free demonstration.

If you don't know him, mail us the coupon below and we will send you his name and the 1925 Johnson catalogue.

### JOHNSON MOTOR COMPANY

860 Sample Street, South Bend, Ind.

*Eastern Distributor and Export:*

New York Johnson Motor Co., Inc.

4 West 61st Street, New York City, N. Y.

*Canadian Distributor:*

Peterborough Canoe Company, Peterborough, Ontario



**Use Your Johnson While you pay for it**  
Get details of our Deferred Payment Plan from your dealer—or direct from us.

**Johnson Motor Co.,**  
860 Sample St.,  
South Bend, Ind.

Gentlemen:

Kindly send me the name of the nearest Johnson dealer, your free catalog and details of the Deferred Payment Plan.

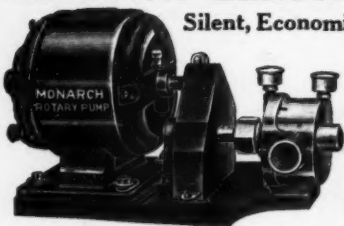
Name.....

Address.....

City.....State.....

## MONARCH ELECTRIC PUMP

**Silent, Economical and Efficient**

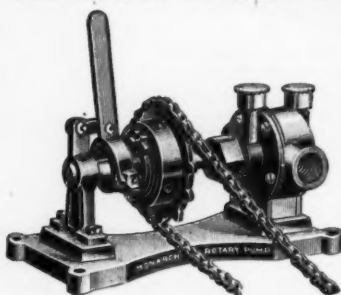


This pump makes the Electric Water-closet possible. It may be used for flushing decks, pumping bilge or furnishing circulating water for heating systems or free running water to all parts of the boat. It's portable and can be used at home, in camp or factory. Free supply of water at all times assured. This pump is also supplied with the

**MONARCH ELECTRIC SELF-STARTER AND CUT OFF** which automatically starts pump running when water in bilge reaches a certain height and automatically stops the pump when bilge is clear of water.

**\$30.00 Extra Attached to Pump**

## MONARCH POWER BILGE PUMP



Fits all sizes of propeller-shafts.

Will not strain propeller-shaft.

Keeps your boat free of water.

May be used for flushing down decks or as an emergency fire pump.

Chain or Belt Drive.

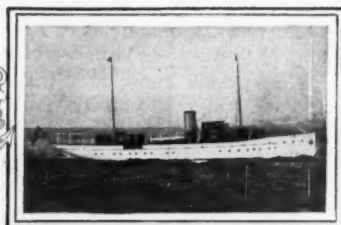
Full particulars sent promptly upon request

**Monarch Valve & Carburetor Co.**

112 Front Street

Brooklyn, N. Y.

**Todd Built  
and Todd  
Conditioned**



*The Motor Yacht "Alcides", built and outfitted completely in 1924 in our Seattle, Washington Yard for Mr. C. W. Wiley, former Commodore of the Seattle Yacht Club. Fine craft of this character find their natural home at Tebo Yacht Basin or other yards of the Todd Shipyards Corp.*

**TEBO YACHT BASIN** is nationally and internationally known for the very widest facilities in the building, repairing and reconditioning of fine yachts, both large and small.

No Yard or Basin in the United States excels Tebo in organization and craftsmanship—in every phase of marine artisanship from cabinet work to Diesel Engine Installation—in contractual relationship and the carrying out of delivery agreements.

Tebo Yacht Basin facilities for storage are convenient and accessible.

## TEBO YACHT BASIN COMPANY

Plant of Todd Shipyards Corporation

Foot of 23rd Street, Brooklyn, New York

Shipbuilders and Repairers  
Engineers  
Diesel Engines and  
Diesel Engine Installation



Parsons Turbines  
Oil Burning Equipment  
Electric Drive Installation

## Cruise of the Yawl Savola

(Continued from page 102)

of Barnegat light, but, alas, too dark to pick up our buoys. This is a difficult Inlet to get in under favorable conditions. We decided to lay to until morning.

As we were casting off our tow line the Captain of the tug came aft to look us over. I told him it was too dark to go in, and he said that he intended running off shore a few miles and spend the night. If we cared to we could lay by. I accepted. And when the tug's engines were stopped we were brought up along side and hung to with spring lines on his leeward side until morning.

It was impossible to sleep. Every other wave we would raise up for a terrific wallop, notwithstanding numerous bumpers. We swung under his lee and had the full benefit of the smell of tons of dead fish that had been caught for fertilizer.

I cannot speak too highly of these men who follow the sea. Captain Messick of the Carlona of Reedville, Virginia, and his crew of twenty-five fishermen, were friends indeed. We were offered every courtesy and these men put themselves out of their way to help us. Hot coffee and food were prepared, which was the only thing we had had to eat since early morning, as it was too rough to cook in our small galley.

Sunrise looked mighty good. We cast off with a cheer to our friends of the Carlona as they steamed for the Virginia Capes.

We sailed for the bell buoy but were obliged to anchor for two more hours on account of the dense fog that came in with the sea breeze.

Our supply of gasoline was getting low, and we were depending on the engine to run the ebb tide through the breakers of Barnegat Inlet, and incidentally to keep down the water that was leaking in through the stuffing box.

We all watched eagerly for the first break in the fog and at 7:45 A. M. picked up the outer buoy and made good weather through Inlet.

Breakfast tasted mighty good swinging at anchor just around the last bend near the beach under old Barnegat Light in quiet water.

## Evinrude Expecting Big Business

Looking forward to another outboard motor year of the record-breaking variety, the Evinrude Motor Company of Milwaukee has just announced its line of outboard and inboard motors.

At the head of the new Evinrude line is the popular Sport Twin, improved by a number of new features. It has a brand new needle valve carburetor for which the Evinrude people claim a great deal. It provides a ready adjustment, assuring perfect performance under all weather and fuel conditions. Among other things, this new carburetor is said to be even more economical in gas than its predecessors. The flywheel magneto has been further improved to provide hotter sparks and still easier starting.

A pull on the Easy Starter whirls the flywheel past four ignition points—no more tiresome rocking. Another improvement of the Sport Twin is the safety reverse, an ingenious feature whereby the boatman, merely with a lift of the tiller, and without swinging the whole motor around, reverses the direction of the boat. When he has gone the desired distance astern the tiller is depressed and the boat jumps forward again.

The last featured improvement is known as the safety tilt-up. This eliminates the old trouble of fouling the propeller with weeds, or injuring it on snags or shallows. It allows the propeller to tilt up from its usual position and rise toward the surface. Another advantage this improvement has is that it allows a boat to be brought right up on the beach or dock without injury to the motor. The tilt-up can be locked for starting.

The balance of the outboard line is made up of two other models. One is the long famous Evinrude one-cylinder. This ever reliable single is, in basic design, the motor that really started the outboard industry and has long dominated it. To this model have been added the many improvements and refinements brought out from time to time by the Evinrude engineering staff.

Besides this, Evinrude announces two inboard motors, a single cylinder, two-horsepower model and a brand new two-cylinder model with integrally mounted fuel tank. It has a horsepower rating between four and five. Both can be installed in either launches or canoes. The single cylinder motor in an ordinary boat provides a speed of about seven miles an hour, while the new two-cylinder model drives an eighteen-foot canoe through the water at about twelve miles an hour. The two inboard motors are of the two-cycle type and possess the same improvements which have given the outboard models their wide fame.





## *The* DODGE WATERCAR

Magnificent in the salesroom, The Watercar is even more attractive in the water. The symmetry of its lines, the lustre of its fine mahogany finish and the virile sound of its powerful and dependable motor, all bespeak exceptional quality and charm.

If you like boating—and nearly every healthy American does—make up your mind to ride in a Watercar. Dodge built throughout, it represents the utmost in value and satisfaction.

Write us, or consult your Dodge Brothers dealer.

**HORACE E. DODGE BOAT WORKS**  
INCORPORATED  
**DETROIT, U.S.A.**

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York



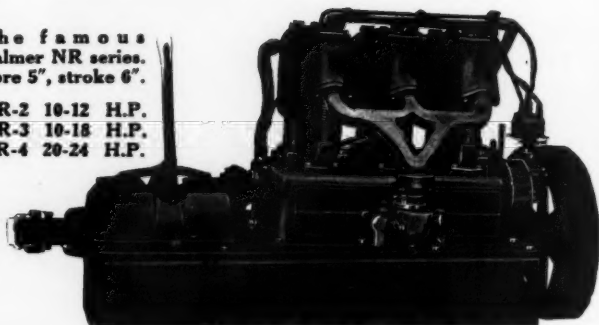
## Use a Palmer

*The difference will surprise you*

## Palmers Are Popular in Models and Prices

The famous  
Palmer NR series.  
Bore 5", stroke 6".

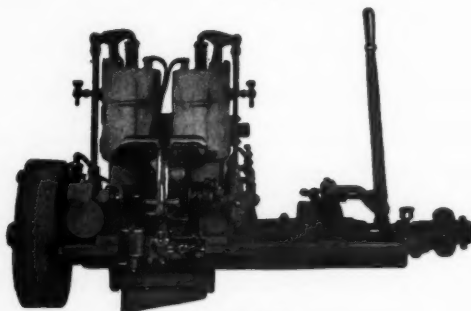
NR-2 10-12 H.P.  
NR-3 10-18 H.P.  
NR-4 20-24 H.P.



**I**T matters not whether your power requirement is for a light runabout or a commercial boat hauling a heavy cargo—there is a Palmer engine to meet it—and at a price you would feel justified in paying.

This organization has long been recognized as the producers of the largest and most complete line of marine engines on the market, including both four cycle and two cycle engines. Recently the Palmer YT-2 was introduced—the vast number of this model sold and the popular accord it received everywhere proves that Palmer principles are right.

A brute in a small package describes the YT-2. Individual cylinders with detachable heads. Combination splash and force feed oiling system. Counter balanced crankshaft. All bearings are bronze backed die cast and interchangeable. Ignition, high tension magneto, equipped with impulse coupling, assuring easy starting.



Model YT2

Price with reverse gear.....\$240.00  
Price without reverse gear..... 200.00

Palmer Engines are carefully designed and built to meet every marine requirement. 2 H. P. to 80 H. P., high speed, medium duty and heavy duty. There is usually a choice of two or three models from which to select a power plant to meet a particular need. And everyone is a proved success.

*May we send you further particulars? Write today.*

### PALMER BROS., ENGINES, Inc., Cos Cob, Conn., U. S. A.

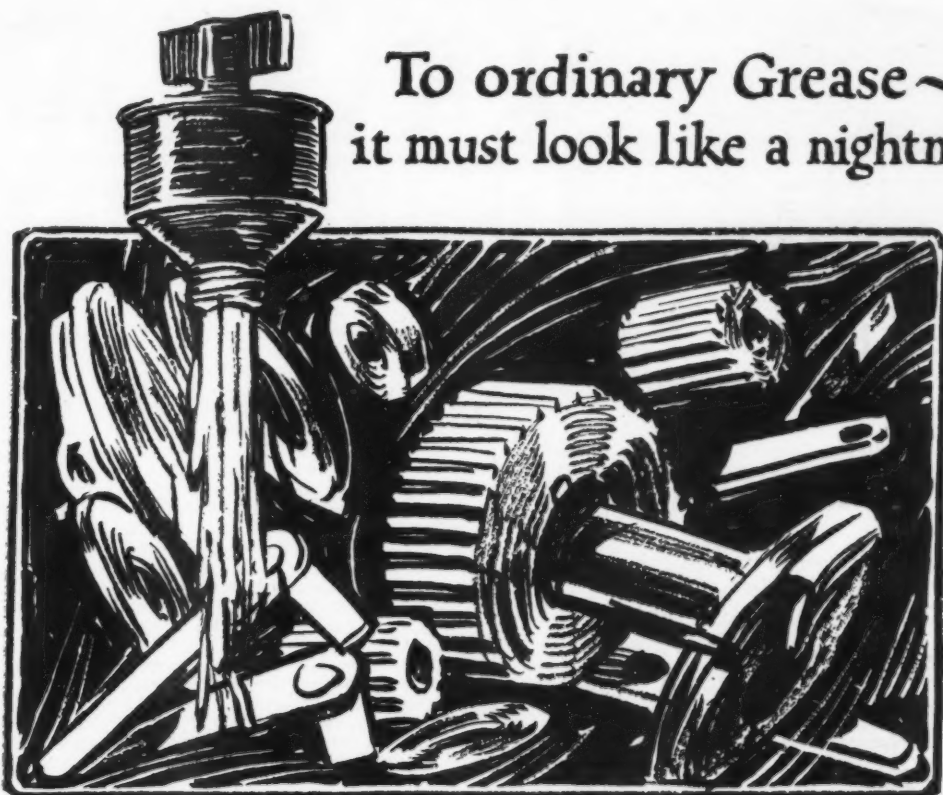
#### BRANCHES AND DISTRIBUTORS:

New York, 128 Lexington Ave., bet. 28th and 29th Sts.  
Baltimore, 308 E. Lombard St.  
Philadelphia, 9 N. 6th St.  
Portland, Maine, Portland Pier.

Boston, Mass., Rapp-Huckins Co., 59 Haverhill St.  
Norfolk, Va., Gas Engine & Boat Corp.  
Jacksonville, Fla., 122 So. Ocean Street.  
Vancouver, B. C., V. M. Daloe.

Tampa, Fla., 233 So. Water St.

To ordinary Grease ~  
it must look like a nightmare



NO WONDER IT LASTS ONLY TWO HOURS!

**T**HIS is just about what an ordinary grease faces when it shoots into a reverse gear—a regular nightmare of grinding discs, interlocking cogs and whirling gears.

No wonder the ordinary good grease you use has an average life of only one and a half to two hours. No wonder it is beaten thin in that short time and drips from the gear joints—weak, blackened and worn. No wonder you have reverse gear repair bills when the parts rub together on a “watery” lubricant.

It is no fault of the grease. The job of properly lubricating a reverse gear is a severe one. It requires a *special* grease that must be refined for the one *special* purpose of protecting each moving, interlocking part of a gear.

Five years ago we set out to build up a grease and oil especially adapted for reverse gear operation. We started tests and found one grease boatmen used in their gears that lasted only *twenty minutes*, while the ordinary good grease you would use with perfect confidence had an average life of one and one-half to two hours. When we got through building up GREZAGERE it ran over seven hours continuously—and was still good.

Reason enough for always keeping a can of GREZAGERE Grease or GREZAGERE Oil aboard your boat. It will not only lengthen the life of the gear but save you from the repair bills that are caused by improper lubrication. Write us for information, sizes and prices.

GREZAGERE GREASE

GREZAGERE OIL

PARAGON

# GreZaGere

REVERSE GEAR GREASE AND OIL FOR ALL MAKES

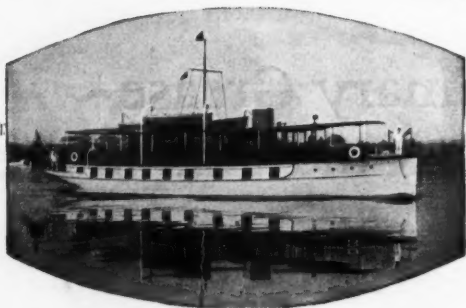
Manufactured by—The U. S. Oil Company, Providence, R. I.

for the

PARAGON GEAR WORKS • 192 Cushman Street • TAUNTON, MASSACHUSETTS

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 122 West 40th Street, New York





### Mathis-built Houseboat "SEQUOIA"

Mr. Richard M. Cadwallader, Jr.,  
Philadelphia, owner.

was hailed in Florida last Winter, by those who know, as "85 ft. of houseboat perfection," because of her yachtness, speed, seaworthiness and comfort.

But there's an even greater surprise coming in the new 92 to 105 ft. boats now under construction in our yards.

### Mathis Yacht Building Co.

Specialists in Houseboats &  
Cruisers from 40 to 120 ft.

Cooper's Point

Camden, N. J.

## We Are Headquarters

for standardized equipment for class boats.

Simply tell us the type and make of your boat. We can fill your needs at once from stock.



### W. & J. Tiebout

118-120 Chambers St.  
New York

## Beating The Century

(Continued from page 19)

agencies took a keen interest and assigned men to cover the race. Eight planes went to Albany to accompany the boats in the run to New York. One plane broadcast a running story so that radio fans in all parts of the east were able to keep in touch with the boats for the entire distance.

Although the boats and train started about forty minutes ahead of the expected schedule, yet even in spite of this and the fact that it was early morning, the shores of the Hudson were literally lined with people all the way from Albany to New York, in order to catch a glimpse of the boats and train. No one can accurately estimate how many hundreds of thousands of people saw the boats. Had they not been forty minutes ahead of schedule the number would have been several times greater.

The editor of *MOTOR BOATING* was the only person making the trip with Commodore Wood. He was picked to act as navigator. Perhaps the best story of the events of the race as they took place, can be had from the notes of the log made on the charts by the navigator while the boats were actually underway, racing down the Hudson. Therefore, we give below the log of Baby Gar IV, perhaps the first log ever written in a racing speed boat.

I am to give the readers of *MOTOR BOATING* the story of Gar Wood's run down the Hudson from Albany to New York, racing the Twentieth Century Limited, the crack train on the New York Central Railroad. I am to be Commodore Wood's pilot and for the next few hours my particular object in life is to see that his two boats keep off the sandbars of the upper Hudson, yet take as many short cuts as possible, as we need every second of time we can save in order to pull into New York City before the Century.

This is the first time that a story has ever been actually written on board a racing motor boat. The task may be more difficult than I anticipate. My position aboard Baby Gar IV, which is the craft that I am to ride in with Commodore Wood, is to be in the forward cockpit, a little hole close to the bow of the boat where there is just room enough for two people to crawl in. The other seat in the forward cockpit will be vacant. Commodore Wood, with his mechanic, Olan Johnson, will occupy seats in the after cockpit. Commodore Wood will be at the wheel and Johnson will see to it that the motor, keep purring at not less than 2,000 revolutions per minute, for the entire 138 miles, which is the distance the government chart shows it to be between the start and finish line which we are to run between.

We have been delayed in our start for a day. We were to race the Century yesterday, but the wind was blowing a gale from the northeast and the thermometer was not many degrees above the freezing point all day, so Commodore Wood late Sunday night decided to call the race off for Monday and start early Tuesday morning, May 26, providing conditions were more favorable.

So much interest has developed for this race that Commodore Wood realizes that should he attempt to run the race in the rain or under unfavorable weather conditions that thousands of people between Albany and New York who would like to see the boats underway would be disappointed. He further states that this run is to be a pleasure trip, and therefore, why make it a source of punishment.

The Albany Yacht Club has done everything in the world to make our stay in their city enjoyable. They have arranged so many dinners for us that we feel that we do not ever care to eat again. The city has made Commodore Wood a citizen of Albany for life, as well as a member of the Albany Police Force and a life member of the Albany Chamber of Commerce. They have also made him a member of the New York State Barge Canal Commission and conferred upon him other honors too numerous to mention.

The two race boats, Baby Gar IV and Baby Gar V, used most of yesterday making final trial runs, with the mechanics going over the power plants to see that everything was in best working condition for the long ride. The boats had several unofficial speed tests between themselves to determine which of the two was the faster. It was found that Baby Gar V, with Geo. Wood at the helm and Joe Kinney as mechanic, could slightly out-run Commodore Wood's own boat, Baby Gar IV.

The hulls of both boats are identical in size and construction. Each boat is approximately 33 feet in overall length, and slightly over 6 feet beam, and of the displacement type. Both are powered with Gar Wood Marine engines. However, Baby Gar IV has a full size engine of 1,650 cubic inches, while Baby Gar V has one of only 1,350 cubic inches. Yet in spite of this apparent handicap in piston displacement, Baby Gar V appears to be the faster, due to the higher compression of her motor and her

(Continued on page 110)

# QUALITY

## Piston Rings

Extra power:—the additional speed:—a feeling of confidence:—the pep and buoyancy of youth.

*New thrills!*

That's what you get with QUALITY piston ring equipment, plus lasting resiliency and longlived service.



## "Phryne" Comes Back to Win



**"PHRYNE" WINS 30-FT. CLASS  
WITH J. P. MORGAN (OWNER) AT THE HELM  
FINISHED WITH**

Smith's Spar Varnish      Smith's "I.X.L." Varnish  
Smith's "Aquatite" Varnish      Smith's Yacht Black  
Smith's Racing Bottom Green  
**FINISH YOUR BOAT WITH SMITH'S  
HARD FOSSIL GUM MARINE PRODUCTS  
AND BE ASSURED OF A SEASON'S SATISFACTION**

**Edward Smith & Co.**

West Ave., 6th & 7th Sts.  
Long Island City, N. Y.



**"Plank Her with Genuine**

**Tide Water**  
**Cypress**  
**"The Wood Eternal"**

**AND YOU PLANK  
BUT ONCE"**

"All-heart, sure enough  
TIDE-WATER" is the kind  
of Cypress to Specify and  
Insist on.

**Southern Cypress Manufacturers' Assn.**

1317 Paydra Bldg., New Orleans, La., or 1317 Graham Bldg., Jacksonville, Fla.

TIDEWATER CYPRESS, "the Wood Eternal," is  
identified by the CYPRESS trade-mark "arrow."  
Please write us immediately if you can't find it.  
**"THE BEST LUMBER FOR BOATS, BIG OR LITTLE"**

## INTERNATIONAL—16

**A STURDY ENGINE FOR RUNABOUTS,  
CRUISERS AND WORK BOATS**

The International—16 is built from the ground up for marine service. Four cylinders, four cycle. Bore 3 3/4 in.; stroke 4 in. Develops 10 H.P. at 500 R.P.M. and 18 H.P. at 1200 R.P.M. You can depend upon the International for steady and economical service through many years. It runs smoothly, quietly, powerfully and free from vibration. It is easy to start and easy to control because it is so flexible. And the price is within reach of any one's pocket.

Write today for full particulars

**SUTTER BROS.**

Successors to

**INTERNATIONAL MANUFACTURING CO.**

44 Third Avenue      New York, N. Y.  
Export Agent: Miranda Bros., 132 Nassau Street, New York

## Beating The Century

(Continued from page 108)

shorter stroke, which makes it possible to turn her engine at a speed of 2,600 revolutions per minute, while the engine of Baby Gar IV can be turned a maximum of only 2,100 revolutions per minute.

It was raining hard when the crews of the two boats turned in early last night. The prospects for favorable weather conditions today were none too good. However, the wind had shifted from northeast to northwest, which gave us hopes that the morning would give us something in weather that we have been looking for for the last forty-eight hours.

This morning the crews were all up before the sun. As this is being written in our room at the Hotel Ten Eyck, even though daybreak has not yet come, it is light enough for us to see down the river and we know that today is the day, if it is ever going to be. The river is like a glassy lake and we can see for ten miles down stream. A slight mist is rising from the water surface, showing that the temperature of the river water is probably above that of the surrounding air. We know, therefore, that the temperature outside must be cold, and we are, therefore, preparing for it.

Commodore Wood is the first down to his boat, tied at the slips at the Albany Yacht Club. It is now 5:30. Johnson and Kinney, the two mechanics, show up a few moments later, then everything is activity. Boat covers are taken off and put aboard a motor truck, which is to take down to New York all the excess equipment not actually required on the boats while they are running. Everything on the engines is gone over again and found to be in first-class running condition. Overalls and sailing clothes are donned by everyone.

The crowd on the docks is gathering at 6:00, Standard time. Automobiles are parked along the waterfront, close together. The windows of the office buildings are occupied by workers, probably the earliest these workers have ever shown up in the morning. Even the housetops are becoming packed with people.

We have endeavored to determine some way to identify the Century, as it passes over the railroad bridge close to the Albany Yacht Club, but we have been unable to do so. About this time in the morning, some twenty or thirty trains, bound south, pass this point, and except to a railroad man's trained eye, they all look alike. We might be racing any one of these trains and think we are racing the Twentieth Century for all we know. The Century carries an observation car, but a railroad official has told us that other trains leaving about the same time, do also.

We have inquired about the time the Century should leave this morning. The time table shows the time of her arrival as 6:27 a.m., Eastern Standard time, but they tell us that the Century might come in several sections, and the report is given us that the first section will pull out ten minutes ahead of time.

Commodore Wood, whose middle name has always been preparedness, never rests upon any man's say-so. He always takes means to find out for himself, and in this instance his forethought in proving the means of determining the first section of the Century may save us the day.

The Century does not make an official stop at Albany to take passengers on for New York. The last stopping point of the eastbound Century is at Cleveland, Ohio. Therefore, Commodore Wood procured six tickets on the first section of the Century, leaving Cleveland at 8:35 last night, which is the section we hope to race to New York. The railroad charged him the neat little sum of \$160 for these six pieces of paper, which he will use for a party of friends, which Mrs. Wood has invited to accompany her down the Hudson on the train. As this transportation provides three sections on each side of the train, we are sure that we will have our representatives on the river side of the Century. Before we left them, we furnished them with several long strips of orange and white cotton bunting, with the instruction to make this bunting fast somewhere, so we can see it as the train passes over the bridge at the Albany Yacht Club, thus identifying the train which we are to race.

Mrs. Wood's party took no chance of missing the train at the station. They were there fully an hour ahead of the schedule time of the Century's arrival, that is, 6:27 a.m.

It is now 6:50, Daylight Saving Time. Commodore Wood has given orders to get under way in about ten minutes' time and warm up our power plants and run around the river opposite the Club. This should give us about 30 minutes' time before the Century should pass over the bridge, providing it goes out on schedule time. However, the Commodore has no sooner given the order than we happen to notice on one of the many trains which have been passing over the bridge during the last few minutes the streamers of orange and white. We knew what it meant in an instant. It is our signal to get under way and go. It is now 6:52, still about 43 minutes until the scheduled

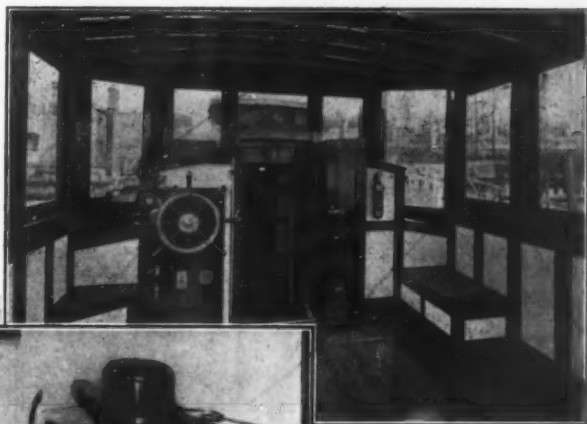
(Continued on page 112)



# A New Fishing Boat

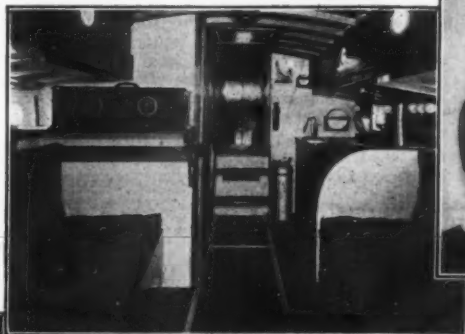


A. L. Foster's new 40 ft. Red Bank cruiser making 20 miles per hour. A model GR, six cylinder, 235 H.P. Sterling engine furnishes the power.



The bridge, large and roomy. Power plant is underneath.

Looking aft in cabin.



Below. Looking forward in the cabin.



Electric lighted throughout. The Delco lighting plant also generates the power for operating the anchor hoist and bilge pump.

**I**N this 40 ft. Red Bank cruiser and fishing boat the accommodation restrictions of the small boat have been surmounted, and the maintenance problems of the large yacht have been avoided. Yet, the accommodations are complete and well arranged for the enjoyment of wholesome comfort, while the equipment and machinery are of the best type for increased efficiency and greater economy in boating.

The exceptional advantages offered by the modern facilities of our plant and yard are reflected in the quality and low cost of Red Bank boats. Write us for a quotation on the type of boat you are interested in.

## RED BANK YACHT WORKS

PIERRE A. PROAL, President

Red Bank

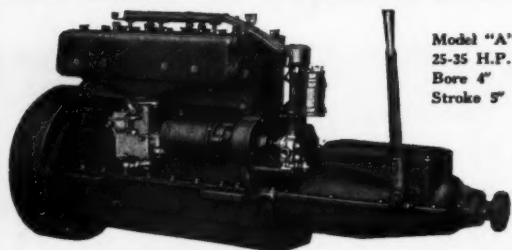
New Jersey

Telephone: Red Bank 540



When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York

## ROBERTS MOTORS

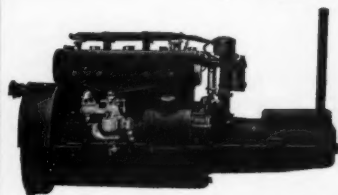
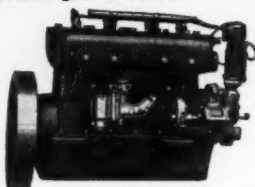


Model "A"  
25-35 H.P.  
Bore 4"  
Stroke 5"

Price \$388.00, without reverse gear or starter.

Model "J" 16 H.P. Bore 3 $\frac{3}{4}$ ". Stroke 4". The lowest priced engine in America. Complete as shown, \$197.00.

Interchangeable with Ford parts.



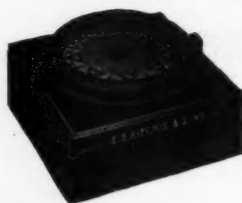
Model "R" 16-20 H.P.  
Bore 3-25/32", stroke 4". Price complete without reverse gear or starter, \$250.00.

ROBERTS MOTORS  
SANDUSKY, OHIO

## The Compass For Your Boat

should be the best obtainable. For seventy years Ritchie compasses have been the choice of experienced navigators.

Select the Ritchie for your boat



Our catalog will show you the one best suited for your needs. Send for a copy today.

E. S. Ritchie & Sons  
Established 1850  
110 Cypress Street  
Brookline, Mass.

## VALUE YOU CANNOT MATCH

A 23-Ft. Cruiser Completely Equipped \$1495

Including Powerplant

Our 23-foot cabin cruiser is an attractive, substantial and comfortable boat; constructed of A-1 materials and is built by skilled boat builders. 8-foot beam, 5-foot head room. Gray model. "ZB" marine motor. Write for catalog. We are also builders of any type of craft up to 75-foot types.

*Richardson*  
QUALITY BOATS

Richardson Boat Co., Inc., N. Tonawanda, N. Y.

## Beating The Century

(Continued from page 110)

leaving time of the Century. We have almost been caught unawares, but not quite.

The signal to go is given at 6:53, and before the rear end of the Century had gone out of sight, back of the trees on the East Albany side of the river, both boats are heading downstream at full speed ahead.

We are now under way and I am trying to write this, under the most unfavorable writing conditions. Everything is all excitement. We were planning to start rather slowly until the motors became thoroughly warmed up, but our plans are all knocked askew. The throttle of both boats is set at full speed ahead. The wind seems to be whistling by us at about sixty miles an hour, I should say. As the water is glassy smooth, there is no jump to the boat. It is cold, but thrilling and invigorating. I glance back and see Commodore Wood at the helm and he shakes his head. It is his usual sign that the race is on in all seriousness. He is not smiling, but has a determined look. As yet he has not glanced back. On the other hand, Mechanician Johnson is all smiles. He is enjoying every minute of the run, but his time for serious thinking may come yet. I glance to starboard and see the bow of Baby Gar V overlapping our stern. She is crawling up on us, slowly, but surely. Now she is abeam of us, and Geo. Wood is at the wheel. He has a serious expression on his face also. Mechanician Kinney is pumping air pressure to the gasoline tanks, something which should have been done previous to the start and would have been done under other conditions than these. Baby Gar V is forging ahead of us. She has more speed, there is no doubt about that, but Commodore Wood gives his brother the signal to drop astern and not force his ship.

The government buoys and lights begin to pass us. We are going so fast it is hard to follow them on the chart. However, there is not much to do for the pilot yet, as all that it is necessary at this point of the river is to keep near the center. The difficult navigation will come later.

As we literally slide down the Hudson, crowds of spectators are banded at every vantage point. They are cheering us. We cannot actually hear the cheers, but we can tell by their gestures.

We are now passing under the new Castleton Bridge. It is 7:06, Daylight Saving Time. We have come nine miles of the journey in thirteen minutes. My slide-rule shows that we are making 41 $\frac{1}{2}$  miles per hour. This isn't enough. The train averages better than 46, including stops, but the train is nowhere in sight astern, and Commodore Wood is not forcing his boat at all now. He still has 500 r.p.m. in reserve, which is equivalent to about 8 miles per hour. By our language of signs, I pass the information back to the Commodore. He shakes his head, but I see his hand rest on the throttle. I feel the boat take new life. I cannot see the revolution counter, which is in the after cockpit, but I imagine the speed is going up a couple of hundred revolutions. In another three minutes, we are abeam of Coeymans. The increase in speed is very apparent. We are now making better than 47 miles an hour, and when Commodore Wood hears this, he smiles. Baby Gar V is hanging on. We cannot shake her. By the look of the crew's faces, we judge they have considerable speed up their sleeve and are playing with us, but they have their orders and are staying astern.

So far, we have not seen a thing of the train since we saw it go over the bridge. This is but natural, as the railroad thus far down the river is located inland from the main channel. This is one of the sections where we hope to gain good advantage over the train. Evidently we are accomplishing our object.

We are now beginning to enter the more difficult part of the river to navigate on. We are abeam of New Baltimore. It is 7:10 a.m., Daylight Saving Time. The river is beautiful. The surface is still glassy and long shadows extend from one bank to nearly the other. We are passing spectators by the hundreds. They do not have much of a look at us, as we are out of sight down the river in a few moments. I am wondering if the people feel repaid for their long and early journey. To me it seems that there are more people watching our trip down the river than were on hand nearly 15 years ago when Glenn Curtiss first flew between Albany and New York. Men, women and children are in the crowd. Some are out in rowboats and a few in canoes and are thrilled with our wake as we dash by. However, most of them are on land. We can see automobiles parked when we come near enough to the highway.

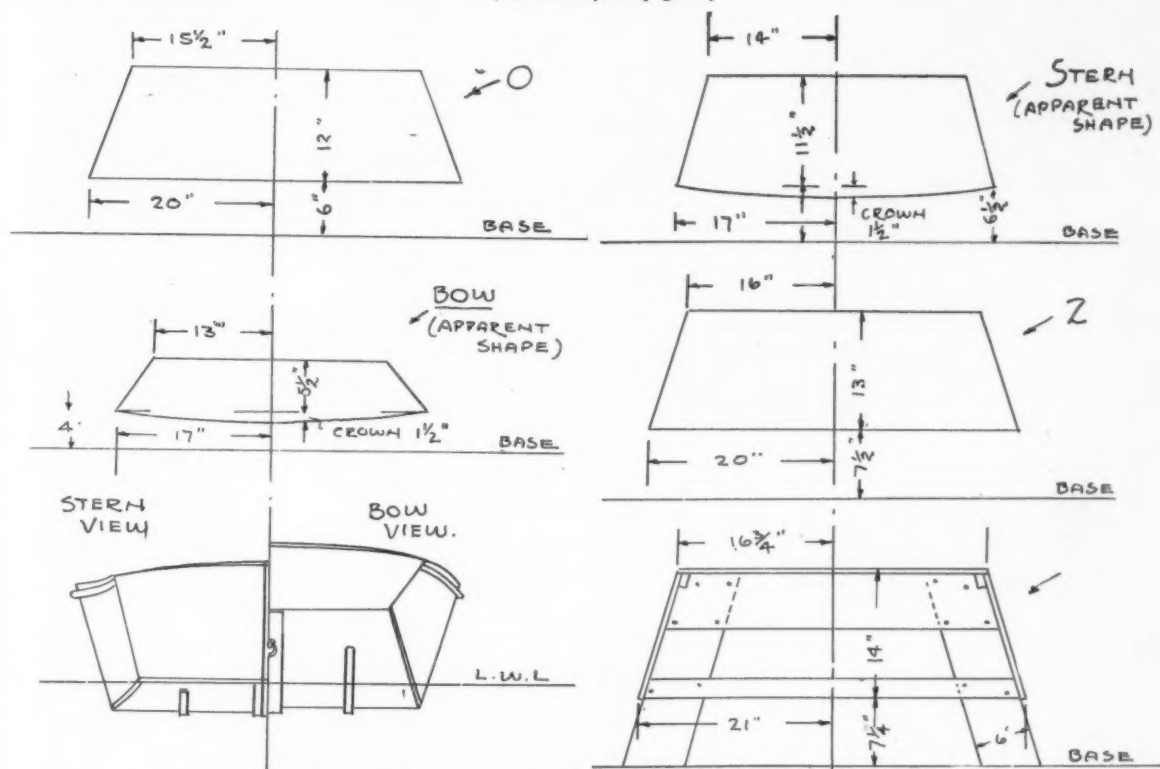
Two Curtiss planes have just caught us and are flying very low just overhead, as both of them have movie operators aboard, and they are grinding out yards and yards of film. These are the first two planes we have seen. Evidently they were caught asleep at the switch by the Century leaving 43 minutes ahead of schedule.

We are now darting from one side of the river to the other.

(Continued on page 120)

# SALLY-ANN, A USEFUL DINGHY

(Continued from page 39)



Details of molds, bow and stern boards of the 8-foot punt, Sally-Ann

The board for the bow will also be made of spruce and  $\frac{3}{4}$  inch thick. This will be but 7 inches in width and of course will be a single piece. In making the stern and the stern notice that because of the bevel at the bottom and the sides, and because of the crown at the top, these members must be made somewhat larger than the dimensions shown on the plans. With the forms and the end pieces set up the notches for the chine pieces should be cut.

The chine pieces will be made of  $\frac{7}{8}$  by  $1\frac{1}{2}$ -inch spruce or oak and should be in a single length. At the bow and stern the chines should be halved into these members and fastened with brass screws. The fastenings into the forms will be temporary and will be removed before the planking is fastened. With the chine pieces in place and nicely faired off to the shape of the side, prepare to lay the side planks.

The planking will be  $\frac{1}{2}$  inch cedar, or if desired for the purpose of making the craft very light,  $\frac{3}{8}$ -inch cedar. The plans show a single plank on each side, and since this does not need over 14 inches in width, I believe that little difficulty will be found in getting cedar of sufficient width. If two planks are put on each side, I should butt-joint these, running a 5/16 by 2-inch spruce batten behind the seam. The fastenings into the chine piece should be  $1\frac{1}{4}$  inch No. 8 brass screws and the same into the bow and stern pieces. Several fastenings will be needed in the forms, but as these must be removed later, I should use wire nails for the purpose so as not to break the surface of the planking.

Before the bottom planking is laid the chine pieces and the bottom edge of the side planking should be faired off true and clean so as to form a perfect landing for the bottom. It might be well to hollow the surface here slightly, for this will permit the laying of a few strands of cotton wicking in the seam between the bottom and the sides.

The bottom will be laid with  $\frac{3}{4}$  by 4-inch cedar, having the seams running athwartships. Brass screws will be used for this part of the work, and there should be three to the end of each plank. These screws should be at least  $1\frac{1}{2}$  inches long and set in so that the heads come a little below the surface. There is very little use in puttting over the heads, for it will soon drag out anyway. By all means, lay the bottom planks in Jeffery's liquid marine glue and the strands of cotton wicking

mentioned above for this will form an absolutely watertight joint. Rather than caulk between the bottom planks, I should paint each edge with this glue, being careful not to fit the seams too tightly. This is the way I finished the bottom of Rinky-Dink and this little seven-foot dink is perfectly watertight.

After the bottom is all on, the ends of the bottom planks should be carefully planed off flush with the side and the corner rounded off with sandpaper. Then the entire exterior should be sanded, being careful to run the strokes of the paper fore and aft on the sides if the expectation is to finish the dink in varnish.

The keel, skeg and rub strips will now be fitted. The keel will be made of  $\frac{3}{4}$  by 4-inch spruce or oak, and should be fastened from the inside out, using 1-inch brass screws of No. 8 size. Notice that the after end of the keel is slotted for a length of approximately 3 feet, and that the skeg fits into this. The skeg will be made of  $\frac{3}{4}$ -inch oak or spruce, as shown, and will be fastened to the bottom, screws extending inside out. There is a  $\frac{3}{4}$  by  $\frac{3}{4}$ -inch oak or spruce stern piece down the stern and let into the aft end of the skeg, the purpose of this being to strengthen the stern board and to prevent the skeg from warping. The rub strips are simply  $\frac{3}{4}$  by 1-inch oak or spruce strips set on the bottom and running parallel to the keel; these, like the keel, will be screw-fastened. The wood surfaces between the keel, skeg, and rub strips should be well painted before these are fastened. The dink can now be turned right side up.

The side knees should be made and fitted before the forms are taken out. There are four of these each side, and they will be made of  $\frac{3}{4}$  by  $1\frac{1}{2}$ -inch clear spruce. The upper ends should be tapered slightly and rounded off, as shown in the sectional drawing at station 1. If the side planking is laid with the batten as described above, these knees should be fitted over the batten and thus face against the planking. The knees will also be fitted around the chine piece. I should use about six brass screws to each frame, these being  $1\frac{1}{2}$  inches long and No. 8 size. At the chine use a copper boat nail for the fastening, riveted over a burr.

The seat rising will be made of  $\frac{3}{4}$  by 1-inch spruce and fastened with screws to the frames, and the forward ends of the risings should be nicely fitted to the chine logs. The middle thwart will be made of  $\frac{3}{4}$  by about (Continued on page 112b)



## Sally-Ann, a Useful Dinghy

(Continued from page 112a)

9-inch spruce and should have a strong back under to prevent bending. It always looks well when the edges of the thwarts are beveled off so as to show but  $\frac{3}{4}$  inch thickness; this bevel should be about  $\frac{3}{4}$  inch wide and on the under side of the seat, of course.

The seats in the bow and stern will be laid in a fore and aft direction, having suitable risings under for nailing purposes. Seats of this kind are far easier to fit than the athwartship kind.

The moulding will be set down from the sheer about  $\frac{1}{4}$  inch because this forms an excellent rabbet into which to nail the rope fender. I use plain Manila rope  $\frac{3}{4}$  inch in diameter, simply nailing this into the rabbet with 1-inch galvanized iron lath nails, the heads being sunk into the rope. This is simplicity itself and the rope fender stays where it belongs, right along the top edge of the sides.

The row locks will be of the side plate type and galvanized iron. These should be set between 9 to 10 inches abaft the after edge of the rowing thwart and set on  $\frac{5}{8}$ -inch oak blocks, well riveted to the planking. Five-foot spruce oars will be the right length for Sally-Ann, and these should be leathered, for the spruce wears away fast against the iron row locks.

Notice that the ring bolt for the painter is let into the bottom. Do not change the location of this. The dink will tow beautifully from this position, and with a tow line about 30 feet long there will be practically no drag. Rinky-Dink, the fore-runner of our little punt here, pulls just ten pounds on the scale at a speed of 6 miles an hour, and that is very little. The newer punt shown herewith will tow about the same.

As a service to readers who wish to build the little punt Sally-Ann, and who might want larger copies of the drawings to a scale of one inch to the foot, arrangements have been made to supply blueprints at moderate cost. For price of these write to the Editor of *MoToR BOATING*, 119 West 40th Street, New York, N. Y.

## MacMillan Sails for the Arctic

(Continued from page 47)

which had been converted into a yacht by Morrill Goddard, of New York, himself a famous yachtsman. When Commander MacMillan looked over the details of this boat he was convinced that she was about what he wanted. Then followed a very quick trip to Marine Basin, Ulmer Park, Brooklyn, where the yacht was located, from there by taxi to the Loeing aeroplane plant at New York, to measure up the planes and see if it was possible to stow them on the deck of Rowena. This data checked up, Mr. Goddard, the owner of the yacht, was consulted and to further a great scientific expedition such as the MacMillan Arctic Expedition, he agreed to turn the boat over to them for a nominal sum on patriotic grounds.

Inside of twenty-four hours after MacMillan had first seen Rowena, she was dry docked at the yard of Jas. Shewman & Sons, in Brooklyn, where a doubler plate six feet wide, one inch thick and 20 feet long was put on both sides of her bow. Her forward compartment was filled with solid concrete, the frames tied together with steel strapping, and numerous other changes made to fit her out for her Arctic Expedition, all under the direct supervision of Henry J. Gielow, Inc., and on May twentieth, Rowena was re-christened Peary by Mrs. Marie Peary Stafford, the famous snow baby, the late Admiral Peary's daughter, as MacMillan explained, to honor his late superior officer, Commander Robert E. Peary, who had taken him, an insignificant college professor, on a number of his trips to the North Pole and made it possible for him to attain the success he has attained on all his Far North expeditions.

Immediately after the christening the Peary set sail for Boston, leaving the dock at 5 P. M. with a party aboard, consisting of Commander Donald B. MacMillan, Lieutenant Commander E. F. McDonald, Joseph A. MacDonald, of Henry J. Gielow, Inc., C. R. Thordarsen, a famous electrical engineer of Chicago, famous Sport Herman of the Chicago Yacht Club, J. Walter MacLaren, of New York City; Douglas Rigney, of New York; Paul H. Klugh, of Zenith Radio Corporation, whose equipment will be used aboard the Peary and Bowdoin, MacMillan's own schooner, E. W. Hale, a publisher of Boston and R. W. Veghte.

The first leg of the North Pole cruise was made from New York to the Charleston Navy Yard in Boston in exactly 23 hours, where the yacht is now taking on the balance of her supplies and will sail from that port on the Seventeenth of June on a history-making cruise, where it is hoped, with the aid of three Navy amphibian planes to discover the vast area of land lying between the North Pole and Alaska, estimated at over one million and a half square miles of land. On this land it is hoped to plant the American flag and claim it for the United States Government.

The Peary is 148 feet in length, with a beam of 22 feet, and a draught of 14 feet. She is powered with triple expansion engines with Scotch boilers, and has accommodations for taking care of a party of forty people.

MacMillan with his Polar ship Peary are to explore the unknown regions about the North Pole. A vast unexplored region one million square miles in extent lies between Alaska and the North Pole, the last remaining blind spot on the face of the globe.

Over this vast area three great planes of the amphibian type will fly this summer, piloted by U. S. Navy air pilots and equipped with the most highly perfected scientific apparatus obtainable by the U. S. Government. The entire expedition, which has been described as the greatest expedition of modern times, is under the direction of Commander Donald B. MacMillan.

The purpose of the expedition is the study and photographic charting of this unknown area, and to make new tests in radio transmission and reception of unparalleled importance. The section to be explored has never been heard from by radio. Radio will be used as the only means of communication between the planes and the ship Peary, as well as intercommunication between planes. For this work small portable sending and receiving sets will be used.

Radio will also be the only means of communication between the expedition and the outside world. Since electricity is the fundamental element which makes radio possible, many people may wonder where MacMillan will find electricity at the North Pole.

Here is where the independent electric plant plays its part, and the plant chosen by MacMillan is an 8 kw. installation consisting of two Universal 4 kw. four-cylinder machines, one of which is shown by the accompanying illustration.

These plants are compact, self-contained machines, consisting of the modern type four-cylinder engine directly connected to multiple pole 110-volt D. C. generators.

The important part which they will play can hardly be estimated, as the great work mapped out for the expedition could not be accomplished without electricity.

## Commander MacMillan Will Use Steel Boats

Lieutenant-Commander Donald B. MacMillan, U. S. N., returned last fall from his eighth expedition to the frozen North. Since his return large audiences have thrilled to his graphic lectures of amazing experiences.

He told of the sailing of the schooner Bowdoin (named for the college of which he, like Admiral Peary, who discovered the North Pole, is alumnus) up the coast of Maine, around the coast of Labrador, and out into the dangerous seas. He described huge mountains, tremendous ice floes girding the Polar seas, herds of splashing walrus, and the igloos of the Eskimos. The Bowdoin, hardly more than a toy, was tossed by the rough seas, yet pushed her way through the grinding ice floes, past towering icebergs, to the barren place known as Refuge Harbor, which, geographically speaking, is the top of the world and within seven hundred miles of the Pole. For fifteen months the MacMillan party were locked in the ice in Greenland before the ice floe broke which enabled the Bowdoin to battle its way south to civilization. The voyage ended with the tying up of the little ship at Wicasset, Maine, on September 20, 1924.

Like every successful Arctic explorer, Commander MacMillan devotes the utmost care to every minute detail of equipment. He attributes the success of numerous side trips, which were fruitful in discovery and valuable information, to his choice of a sturdy small boat—a Mullins Outboard Special Pressed Steel rowboat, which was given a test of endurance quite unique in the history of small craft. No small boat was ever subjected to rougher usage in hazardous travel. The famous Mullins Outboard Special withstood the battering of jagged ice that would have crushed an ordinary wooden boat like an eggshell.

Before undertaking the battle back toward civilization, the MacMillan party stored the Mullins Outboard Special at a point they carefully marked and will recognize. It is the intention to use it again throughout the perilous voyaging of the North Polar Expedition which Commander MacMillan is now planning. He will start this summer, accompanied by Lieutenant-Commander Eugene F. McDonald, Jr., U. S. N., president of the National Association of Broadcasters, under orders from Secretary of the Navy Wilbur. This time Mr. MacMillan will take three airplanes equipped with map-making cameras, which will enable him to do in a day work that would require months under old topographical methods. Daily radio reports will be made. According to navy officials and the National Geographic Association, these radio reports will constitute the greatest current history reports ever made directly over the wireless telephone.

# Utilizing Waste Space

*You Can Increase the Cruising Radius of Your Boat  
by Having Fuel Tanks Made to Order*

By G. H. KOVEN

President, L. O. Koven & Brother, Inc.

**A**FTER reading the title of my article, many boatmen will remark, "What a lean bone this fellow is trying to pick,—there is no such thing as waste space on any boat."

Naval architects and boat builders pride themselves on their ability to utilize every inch of space aboard a boat for some useful purpose. There are so many conveniences demanded for comfortable living within the limited confines of a boat that this forced condition has made boat designers and builders very skillful in this respect. I sometimes hesitate to think what a boat builder would do if he should change his business and follow the building of homes as his life's work, and try to put into it the same zest for space saving as he does in the building of boats.

In spite of the builder's artfulness there is much idle space on the average boat that is begging to make itself useful. This space can be put to work in a very profitable way to increase the boat's cruising radius from thirty per cent to perhaps several hundred per cent.

This unoccupied space I am talking of is generally hidden from the eye. You do not see it unless you search for it, but it is there just the same. Let us take the average cruiser for example and do a little exploring aboard. We will look at the fuel and water tanks; you will notice they are cylindrical in shape. At first glance this condition suggests nothing irregular, and it is not irregular. It is quite regular on most boats and that is why I am writing this article. On scanning the tank again, its installation and surroundings, it will occur to you that a rectangular shaped tank of the same height and depth as the diameter of the cylindrical tank and of equal length, would give greater capacity without taking up any more space than the cylindrical tank now commands.

This article might have been entitled, *Using the Corners*. For that is really what we are doing. To make this clearer, let us take a cylindrical tank of one foot diameter and compare it with a rectangular tank having the width and depth equal to the diameter of the cylindrical tank. The length of the tank is immaterial for this illustration. It does not take much juggling of figures to find that the difference in area between a one foot square and a circle of one foot diameter is thirty-one square inches. On further figuring you will find that in every 7½ inches

Advertisement.

of length, the rectangular tank will hold one gallon more than the cylindrical container. Thus a rectangular tank one foot wide and deep and thirty-six inches in length has nearly five gallons greater capacity than the cylindrical tank of one foot diameter and thirty-six inches in length. This is approximately thirty per cent greater than the seventeen and one-half gallons which is the actual capacity of the cylindrical tank.

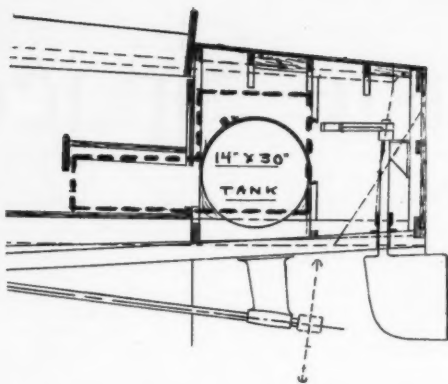
I have hardly scratched the surface of this discussion of waste space. Further examination of the tank installation on the cruiser type of pleasure craft shows the usual practice is to place the tank under the cockpit floor and near the side of the hull. You will notice that there is more of this "do nothing" space we are searching for between the wall of the tank and the side of the hull. This space might well be put to some useful purpose by having the storage tank conform to the contour of the hull at this point. An excellent example, of this kind of tank installation is graphically illustrated on the following page and the difference in capacity between the old cylindrical tank and the new installation is given.

Sometimes the peculiar shape of the space available makes it seem almost impossible to construct a tank that will fit the space snugly. If you could see some of the tanks being built for owners who demand the maximum cruising radius for their boats you will swear that many boatmen are becoming erratic space savers. The illustration on this page gives a good idea of the extremes some boat owners go to in utilizing space for tank room. This particular tank readily shows that it is designed to fit in the stern of the boat around the rudder post and to extend forward under the aft seat.

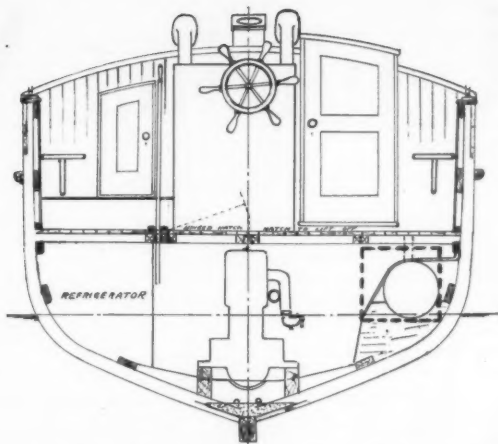
Now please don't get the idea that I am riding boat builders and am criticizing the installation of standardized tanks. I am thoroughly in sympathy with the idea of stock sizes and standardization wherever practical, but there are always some places where the easiest and cheapest way isn't necessarily the best way. The company of which I am the head is the largest builder of standard and special shaped tanks catering to the motor boat trade. We sell thousands of stock tanks each year to boat builders. The builder selects the size tank he believes will be and is suitable for the boat's power plant. However, the use of



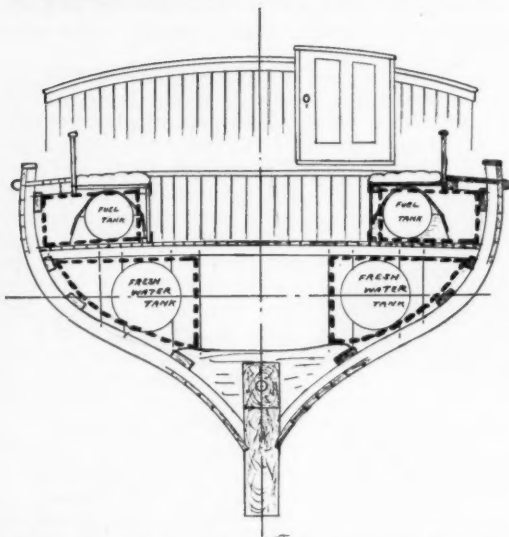
It is not hard to determine the location this tank will have on a boat. Notice how it is shaped to fit around the rudder post and how it extends forward to fit under the stern seat.



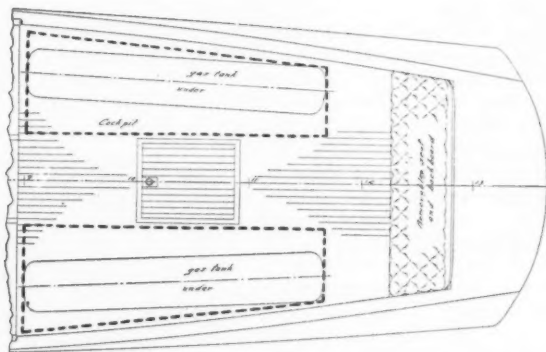
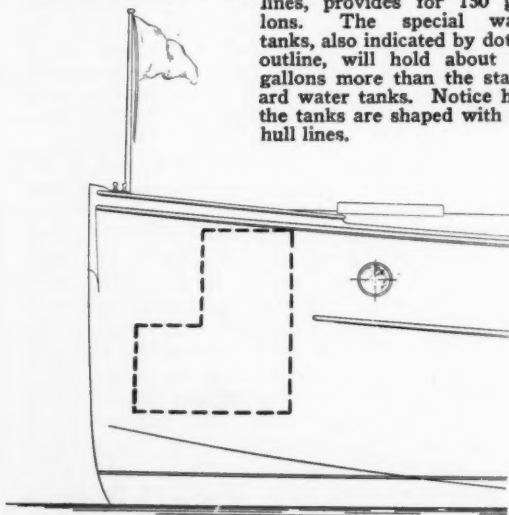
Here is a general style of standardized tank installation in the stern of a runabout. The dotted line shows how a special tank could just as easily have been installed. The capacity of the cylindrical tank is 28 gallons while the special tank holds 70 gallons, or more than 150% greater.



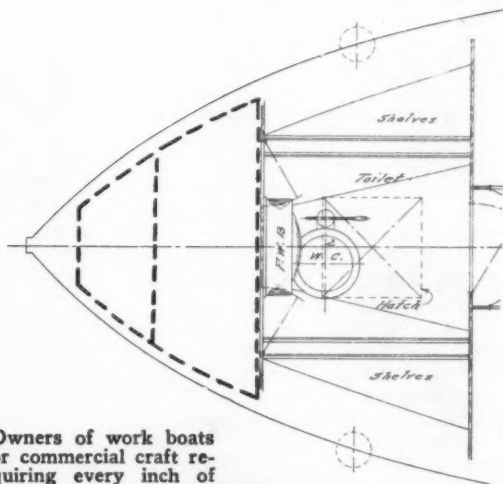
A typical installation of a 40 gallon cylindrical tank on a small cruiser. A rectangular tank occupying the space indicated by the dotted line will give 117% more capacity, or 87 gallons.



This section of an auxiliary cruiser shows both water and fuel tank installations. The combined capacity of the two standard fuel tanks is 60 gallons; whereas the installation of special tanks, shown by dotted lines, provides for 150 gallons. The special water tanks, also indicated by dotted outline, will hold about 180 gallons more than the standard water tanks. Notice how the tanks are shaped with the hull lines.



Here we have the prevailing tank installation on the majority of cruisers. Two cylindrical tanks installed under the cockpit floor. Each cylindrical tank holds 83 gallons; whereas special tanks with a capacity of 175 gallons can be installed as indicated in the plan.



Owners of work boats or commercial craft requiring every inch of aft space for cargo will find this ingenious installation of a bow tank interesting. Towards the bow, the tank is stepped, allowing room for the storage of anchor chain, ropes, etc. The drawing at the left gives a port view of the tank installation.

Advertisement.

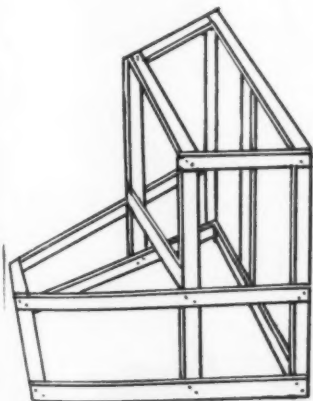


any boat is limited by its cruising range. The distance between fueling stations is often further than the cruising radius, necessitating the carrying of an emergency supply of fuel in cans. If only for safety sake alone you should instruct the builder of your next boat to instal made-to-order tanks to give your boat its maximum cruising range. It will pay you well to do this. You will get more enjoyment from the boat besides longer uninterrupted cruises.

Of course gasoline and oil are not the only liquids stored in the boat's tanks. There is also water carried, a necessity to life and for cleanliness. I never experienced being without water on a desert, but I do not imagine being caught in such a predicament could be as tantalizing as being without drinking water on a boat at sea, where you are surrounded on all sides by water but none fit to drink. It is a good plan then to give special thought to water tanks also. It is better to carry more than your needs actually require and thus insure yourself against a drought in the water tank while cruising.

I have purposely omitted reference to changing tanks on boats now in service, not because it is not practical; but more so as it is a matter to be determined by the accessibility of the present tank installation. On the majority of boats the tank installations are easy to get at and the old tanks can be replaced with special designed tanks with practically no trouble and in a few hours.

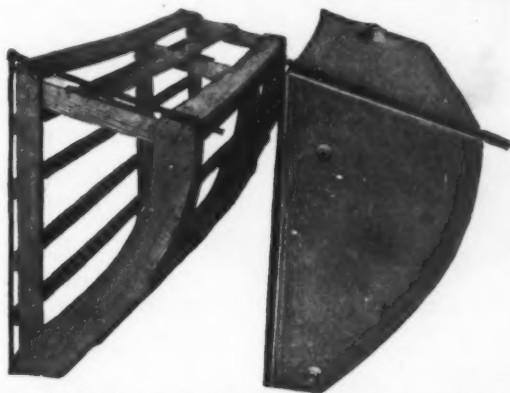
It is of prime importance to know at all times just how much fuel is in the tank. Many boatmen have often been deceived in measuring the quantity of gasoline or water that is in the tank when the contents is less than full capacity. The usual practice is to run a stick into the tank through an inlet. If the stick is one quarter wet when removed it is assumed the tank is one-quarter full. This may be so in true rectangular shaped tanks, but not of the cylindrical when in a horizontal position, or special shaped containers. It is an easy matter to make a measuring stick graduated with the different gallon marks. There are two ways to make such a stick. The quicker method is by mathematics. The other way is as follows: When the tank is empty pour in a gallon of fuel or water as the case may be. Then inject the stick into the tank as far as it will go. Remove the stick and mark off where the liquid reaches the highest point on the stick "one gallon." Repeat this operation until the tank is full and you will then have an accurate measuring stick.



A skeleton for a bow tank and the completed job. A tank of this kind can also be built from a sketch if accurate measurements are given.  
Advertisement.

## How to Order Special Designed Tanks

**T**HERE are several ways to order a special tank. Where the design wanted is not intricate the dimensions will be all that is necessary to supply. Orders for tanks whose shapes involve curves or many angles should be sketched and the different dimensions carefully noted. The most practical way that I know of is to furnish a skeleton or what is known in the trade as a template. Anyone who is handy with a saw and hammer can build a skeleton or template. It is simply a matter of fashioning in wood, crate style, a frame of the tank shape wanted.



Probably the most difficult tank to order is one involving a number of curves. The best way to order this kind of tank is to make a skeleton out of wood for the tank builder to follow. The Koven plant recently completed this tank. Notice the rulers at the edge of the skeleton and tank, showing how accurately the skeleton is followed.

The advantage of this method is that you can fit the frame to the space the tank will occupy when installed. This will give you an actual check on your measurements and a very clear idea of how the tank will appear when installed. One thing to remember when building the template or skeleton, is to use substantial wood. Usually the template when strongly constructed can be shipped bare without being damaged. A safer way would be to enclose the skeleton in a crate or box. The position of the inlets and outlets on the proposed tank should be carefully noted and the size of each should be furnished.

I want to take this opportunity to extend to all boat owners and builders the co-operation of the Koven engineering department in designing special tanks. We have been building tanks for over forty years. The experience of our engineers, I am sure, will be of great value to many who are in a quandary as to the most economical and practical way to increase their boats' cruising range. If you have available the mechanical drawings of your boat, send them to us. Our engineers will make a study of them and advise you just how larger tanks can be installed. The plans will be returned to you with a sketch of tanks recommended by our engineers and also an estimate of the cost. Just address: Marine Engineering Dept., L. O. Koven & Brother, Inc., 154 Ogden Ave., Jersey City, N. J.

# KOVEN

## MARINE SPECIALTIES



Special air pressure tanks built for U. S. Torpedo Boat Destroyers

WHEN you need for your boat anything made of galvanized sheet iron, plate steel, monel metal, copper or any other kind of sheet metal, you will find that we can build it exactly to your specifications in the shortest time and at the lowest cost.



Galvanized Marking Buoy



Exterior and interior of ventilating stack

You will also find that whether your requirement is simple or difficult, every detail of its manufacture will be given painstaking care and the finished product will be perfect in every sense of the word.

Galvanized Rudder—



Air Whistle tank

### BOAT TANKS

Fuel Tanks  
Water Tanks  
Air Pressure Tanks  
Spray Tanks

### SPECIAL WORK

Galvanized Rudders  
Ventilating Stacks  
Oily Waste Cans  
Marking Buoys  
Exhaust Manifolds

*Tanks of standardized sizes carried in stock.*



Gasoline or kerosene spray and tank



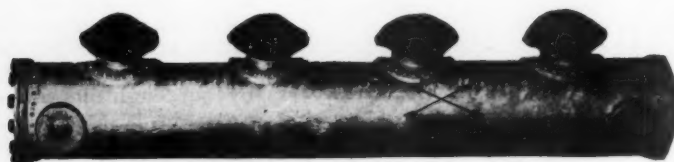
Safety Gasoline Filling Can

## L. O. KOVEN & BROTHER, INC

*The largest tank manufacturers catering to the motor boat trade*

154 Ogden Avenue

Jersey City, N. J.



Galvanized exhaust manifold, water cooled.



Oily waste can

*Advertising Index will be found on page 146*

# Yard and Shop

(Continued from page 98)

a very short space of time, and also run up the river and enter a pier where the space is narrowed to the very limit. The engines answer fully the will of the captain, starting up at low revolutions and accelerating at the jingle of both ahead and reverse signal.

She carries canned goods and farm products from Salisbury, and machinery and perishables and automobiles from Baltimore.

The engines in Victor Lynn will pay for themselves in but a short period of time.

The smooth and quiet running of this vessel with the oil engine is quite noticeable and is another triumph for the Standard full Diesel Oil engine.

## Covers Europe via Amilcar With Elto Attached

J. W. Shillan, of Premier House, London, England, Director of European sales for the Elto Outboard Motor Company, attracts considerable attention, as he covers the European territory, by traveling with an Amilcar Sports Automobile to which is attached and very openly displayed the Elto Light Twin Outboard Motor.

Mr. Shillan knows Europe like a book and his wide acquaintance in business circles has made possible a nice development of business for the Elto Outboard Motor Company throughout the whole of Europe. In fact, Elto is now represented in eighteen European countries, from which it enjoys a fine volume of business.

### SCHEDULE OF RACING DATES, 1925

July 3 & 4—Southern Marine Marathon, Southern Yacht Club, New Orleans, La.

July 3, 4 & 5—Annual Regatta, Mississippi Valley Power Boat Association, White Lake, Mich.

July 11—New York A. C., Cruiser Race to Block Island.

July 18—Auxiliary Race, Cruising Club of America, Boston.

July 25—Mackinac Race, Chicago Y. C. and Bayview Y. C.

July 26—Larchmont-Gloucester Race, Cruising Club of America.

Aug. 7—Bayside-Block Island Auxiliary Race.

Aug. 7-8—Annual Regatta, Miles River Y. C., St. Michaels, Maryland.

Aug. 25—James Craig Trophy Race, Philadelphia to Manhasset Bay.

Aug. 26—Handicap Express Cruiser Championship, Middletown to Manhasset Bay.

Aug. 28—Handicap Cruiser Championship of America.

Aug. 28-30—GOLD CUP REGATTA, MANHASSET BAY.

### FRIDAY, AUGUST 28

Cruisers—Handicap Championship of America, Manhasset Bay to Stratford Shoal and return. About 80 miles. 10 a.m. Mile Trials all day.

### SATURDAY, AUGUST 29

1:15-1:45—First heat, Miami One-Design Cl. 12 miles.

2:00-2:45—First heat, Gold Cup. 30 miles.

2:50-3:20—Second heat, Miami One-Design Cl. 12 miles.

3:30-4:15—Second heat, Gold Cup. 30 miles.

4:20-4:40—Baby Car Invitation. 12 miles.

4:45-5:30—Third heat, Gold Cup. 30 miles.

5:45-6:15—Free-for-All Displacement Runabouts. 24 miles.

### SUNDAY, AUGUST 30

10:00-10:30—Outboard Motor Race, 3 classes. 3 miles.

10:35-10:55—Aquaplane Race. ¼ mile.

11:00-11:50—Truth Race for All Boats. Not over 10 miles.

12:00-12:20—First heat, Dodge Trophy. 12 miles.

12:35-1:15—Third heat, Miami One-Design Cl. 12 miles.

1:20-1:40—Second heat, Dodge Trophy. 12 miles.

1:50-2:05—First heat, 151 Class Hydroplanes. 6 miles.

2:20-2:40—Third heat, Dodge Trophy. 12 miles.

2:50-3:05—Second heat, 151 Class Hydroplanes. 6 miles.

3:20-3:40—Fourth heat, Dodge Trophy. 12 miles.

3:50-4:20—Fourth heat, Miami One-Design Class. 12 miles.

4:30 —Race for International Trophy. 105 miles.

Sept. 4-7—Annual Regatta, Detroit, Mich.

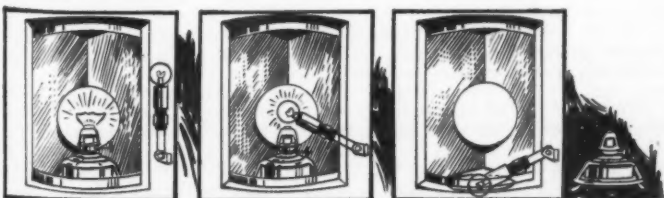
Sept. 12-13—Ohio Valley Motor Boat Association Regatta, Cincinnati, O.

Sept. 13—Ocean Race, 50 miles, Sheepshead Bay Yacht Club, New York.

Mar. 19-20, 1926—Annual Mid-Winter Regatta, Miami Beach, Fla.

## U. S. P. S. Teaching Saves Life

Everett Tuscoe, colored, age 11, can be thankful that a U. S. P. S. course, taken last winter by Mr. Charles P. Bennis, local representative of the Gray Marine Motor Co., together with the skill in swimming of Engineer Gray and Seaman Fiegland of the yacht Courier, were available at a most critical time in his life.



116a

Tuscoe, in bathing at the foot of Eighth Street, S. W., Washington, D. C., with a crowd of other boys, had gone down for the last time when Engineer Gray dived to his rescue. Gray's efforts were unrewarded, but Fiegland on his third attempt came to the surface with the body, which was passed to a helpless crowd on shore.

Mr. Bennis, appearing on the scene, immediately remembered and applied the simple method of resuscitation, as demonstrated at a U. S. P. S. class he had attended last winter.

Twenty minutes of calm and efficient work on the part of Mr. Bennis resulted in a complete revival of the boy, although he had been submerged for over five minutes.

Although Mr. Bennis had never before attempted to apply artificial respiration, the failure of the arriving police and ambulance surgeon to interfere with his work, or methods, proved the correctness of his instruction.

The United States Power Squadrons, Inc., is the only sporting organization in the world which requires an entrance examination. Its classes in piloting and navigation are free and carry no obligations to join the squadrons.

## Kermath Engines Exceed Promises

A recent letter to the Kermath Manufacturing Company from Henry H. Gordon, builder of the Gordon cruisers, expresses his appreciation of these engines in the following words: "It affords us a great deal of pleasure to be able to tell you of the success which we have had with the dozen new six-cylinder Kermath motors which we have installed this spring. We expected much from these new motors, but they have exceeded our hopes in every direction. If a smoother running motor has ever been produced, we do not know of it."

"Just to give you one example of the success which we have had with this motor installed in our Gordon cruisers, I will tell you of one of the first boats in which we installed a Kermath Six. This boat was for delivery down East. On the trip down through Long Island Sound this boat encountered particularly heavy weather, but she came through splendidly. The way that brand new motor ran under conditions as severe as one would ever expect to encounter was remarkable. Needless to state, the owner was more than pleased, and he tells us that nothing could ever spoil his confidence in his power plant after that."

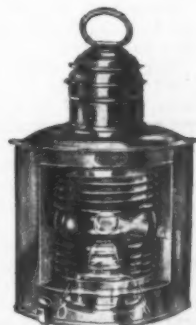
"All who have purchased Gordon boats with Kermath motors are equally enthusiastic over the power, quietness, smooth running and easy handling qualities of their power plant equipment."

## An Improved Lamp

A new navigation lamp, combining the two features of oil and electric burning, has been developed and marketed by the National Marine Lamp Company, Forestville, Conn. The double safety, insured by the use of this type of equipment, is an asset to all boatmen. Patents have been applied for, and this safety light is so arranged that when the oil or the electric burners are used, the light is centered in front of the reflector, which assures a perfect focus in each case. This will assist the lamp in distributing its rays through the required arc. The electric socket is held on an arm, which is arranged to stay in any one of three positions.

The first of these is an out-of-the-way position, which the electric lamp takes when the oil burner is in service. The second position is the one taken when the electric light is used with the oil burned out of service. The third position is the one into which the electric arm is swung for the purpose of cleaning or renewing the bulb. These lamps are made in all sizes of sailing lights, required by the regulations for motor boats and yachts of all classes.

Cuts show the interior arrangement of the new sailing lights with both oil and electric illumination. Phantom view shows the exterior of the lamp.





# Rambling In a Boat Plant

(Continued from page 34)

desire has been creeping into my veins to see what was in back of that big board fence, known to me in the old days as the Seabury Company, now as the Consolidated Ship Building Corporation.

Recently the desire got too strong, and I made up my mind that I was at least going to attempt to see what was behind the big wooden fence. About 2 o'clock in the afternoon I nopped on the train to Morris Heights and with a slight heart palpitation entered the office of the Consolidated Ship Building Corporation, and asked if it were possible for me to see some of the yachts on the ways and in storage.

I was referred to a gentleman by the name of William Wood, and when I expressed my wishes, he not only extended to me the liberty of the yard, but most cordially offered to take me on a personal sightseeing tour. I can hardly remember a more wonderful three hours than those I spent in these famous yacht yards.

Leaving the offices, we entered first a large shed in which were located four or five motor cruisers that had been on exhibition at the show at Madison Square Garden. Up the ladder we went, and into the cockpit of a 35-foot cruiser, built with an engine installed to drive her at 24 miles an hour, and my first impression was one of awe at the strength, stability and power so perfectly expressed in this comparatively small cabin cruiser. I should like to have spent a few hours looking at everything in there, but Mr. Wood hurried me along, because he knew, better than I did, how long it would take to round through these expansive yards.

Our next stop was the wood-finishing room, where the wood-work for boats under construction, and which had been previously built and joined, were getting their wood polish and stains and first coats of varnish applied. I don't know whether it will be possible for me to follow in routine our little trip, but I will tell of the high spots and impressions that were made, and I believe that there are many yachtsmen who would be interested in having their experiences of a similar nature recalled to them.

Our next visit was on board a cruiser that I visualized as approximately 100 feet long, and it is hard for me to express the emotions of desire, delight, and, I am sorry to say, envy, that the visit to this boat created within me.

It has always seemed to me that architects in planning the small homes that are so popular today, could learn an infinite number of things by a trip through the present-day yacht. The utility of space seems almost beyond the fondest dreams of the average home owner. There is not a square inch wasted. The galley, for instance, of a boat of this kind is of necessity very small, and yet just a glance will show the visitor the convenience, the ease, with which a complete meal may be prepared with a minimum of exertion and a maximum of efficiency.

In this comparatively compact unit were tremendous ice chests to overcome the possibility that might arise if the refrigerating apparatus in the engine room was halted for some repair. The electric plate warmers—in fact, every cooking necessity was as perfectly arranged as any French chef could possibly desire, and all this in a room, if we may call it such, hardly larger than a good sized closet in the average home.

There is only one other construction that I know of that is comparable at all, and in that case, as in this, space is a vital factor, namely, the Pullman dining car. The latter, however, has a great advantage over the yacht, in that it is going from one city to another, and the requirements for storage are minimum as compared with a boat that may be days away from its next supply.

I won't go into all the details of this boat, as it would take too long, but every step of the trip around it opened new wonders to my eye.

One of the things which impressed me, for instance, were the twin beds in the master's cabin, that looked as if they had been purchased in a furniture store and set up in this cabin, yet one side of them was built right into the boat and the whole job was a cabinetmaker development of the yacht yards.

Leaving this cruising marvel and going around the end of one of the large sheds, I happened to look across the yard and saw an old hull that had been apparently standing a number of years on the ways. I asked Mr. Wood what that boat was. He replied that it belonged to somebody who, because of very fond memories of the pleasures they had had on it, ordered it hauled out and stored indefinitely, which emphasizes the fact that there are comparatively few inanimate objects today that can hold such a strong place in our hearts as the pleasure craft on which we have had many hours and days of unforgettable

joys and happiness. They are like old family homesteads. We hate to have them misused or go out of our lives.

A little further on we came to a large shed, under which were stored innumerable other craft of almost every size, type and construction, all of which would be in the water on or about the first of June.

Getting back through the yards, we entered what might be called the foundry and engine assembly department, where the Speedway engines of many different sizes were going through the process of being fitted and assembled, and where the sections of steel keels were being cut down and made ready for new constructions.

From here we went along the dock a way and saw three or four old boats having their innards torn out and replaced with new engines. It hardly seems possible in some of these cases that the boat will ever look the same again. Replacement is only part and parcel of the regular routine of the shipbuilder. In this connection, I can remember distinctly that I saw a boat literally cut in half about 15 years ago, and a section of 25 feet stuck into its middle, changing it from a 62 to an 87-foot boat. This is only one of the many interesting pieces of work that the shipbuilder runs in contact with.

Turning back into the yard, we passed perhaps 15 or 20 boats either under construction or being prepared to be put overboard for the summer, ranging from 70 to 150 feet over all. Any one of these I certainly would have delighted to spend a day on, just where they were standing. Go over them again and again from stem to stern and each time, no doubt, discovering some new little crevice that had been turned into an interesting little locker with shelves for neckties or collar buttons, or some other use that makes for the completeness and comfort of the master, guests and crew. Time became a factor, however, as I had only allowed about three hours to play in, so we must needs hurry along.

My next surprise was the shed in which small boats, such as Dinghies, Tenders and open motorboats were being built. Here I was impressed once again with something with which I am always impressed, namely, that boats are not like automobiles or other things of a similar nature. It is almost impossible to standardize their construction. Their design can be standardized; certain materials of which they are made can be standardized; but every piece of wood is different, every rib, every plank, every brace is to be treated according to its own individuality, its grain, individual strength, and the finish that it will take. It is here that master craftsmanship must enter and leave behind standardization of construction. Every hole that is bored, every rivet that is set has its own different and individual risks as to possible splitting or checking of the material the craftsman is working with.

Perhaps boats built of metal might be standardized. Boats built of metal are not a true visualization of yacht construction and do not express the full emotion the finely built boat has, nor in many cases do they have the same life and buoyancy of the wooden craft.

We then went to the shed where models were made and the work of designing the frames over which the boat is to be built. Here also are built the beautifully designed steering wheels that the Consolidated Shipbuilding Corporation takes so much pride in, as well as other small wooden parts that are so necessary to the perfect finish of the complete yacht.

My trip was ended by a visit to the designing room, where plans and designs of future pleasure craft were being created on the drafting table. The walls were lined with half models that many collectors would give a small fortune to own, and tucked away in one corner of this designing room was an office which might also be termed a museum of the Chief Designing and Construction Engineer.

Just a glance around this office was enough to create that intense longing for months of cruising in strange waters that the real yachtsman is so susceptible to, when brought in contact with the things present in this room.

The models of small boats and large ships, queer knives and machetes, spears and lances, photographs and paintings, clay pipes and pipes of peace, and—well, why continue? It was here that I realized my few hours in what might almost be termed dreamland had ended.

All I can say to you yachtsmen, who have been placed by force of circumstances in the position of not being able to enjoy for days and weeks the perfect pleasure on the water that you have in the past, a visit to a yard such as the Consolidated Shipbuilding Corporation will for a few hours at least fill your cup of joy to overflowing, even though it leaves you a little discontented with your life as it has to be.



## When you ride in a Belle Isle Bear Cat

The buoyancy of swift flight will be revealed to you for the first time when you take your initial ride in the fast Bear Cat runabout. Their size, seaworthiness and express train speed recommend these boats as the safest, most comfortable means of fast transportation afloat.

New York Office  
393-7th Avenue  
1210 Equitable Life Bldg.

Belle Isle Bear Cat boats are beautifully proportioned, all-mahogany runabouts possessing great speed and strength. The impressive use of perfect hull design, coupled with the powerful Hall-Scott marine motor, mark these boats for unusual durability and freedom from mechanical ills.

### BELLE ISLE - HACKER *Boat Sales Co.*

DISTRIBUTORS



DETROIT

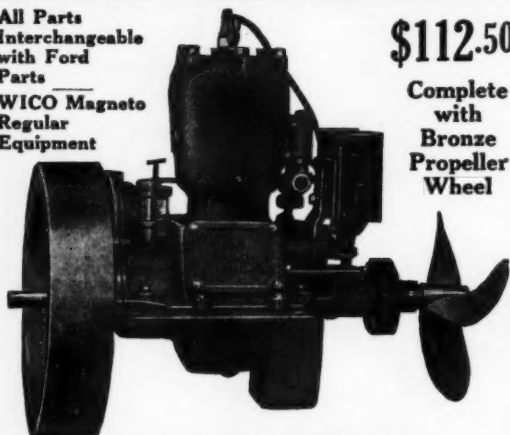


Sixty-three hundred  
East Jefferson Ave.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York

**Du Brie***The World's  
Flexible  
Motor*

4 cycle 5 H.P.

**All Parts  
Interchangeable  
with Ford  
Parts****WICO Magneto  
Regular  
Equipment****\$112.50****Complete  
with  
Bronze  
Propeller  
Wheel****You'll Be Proud of This Motor**

N appearance, operation and price the DuBrie gives you the utmost in marine engine value. While other engines wear out after a few years of service, the DuBrie keeps running on as good as the day it was bought. Has special hot spot manifold. Shipped complete ready to install and run. No extras to buy. Write today.

**DuBRIE MARINE MOTORS**

5426 McGRAW AVENUE DETROIT, MICH.  
Louisiana Distributors, Stauffer, Eshleman & Co.  
New Orleans, La.

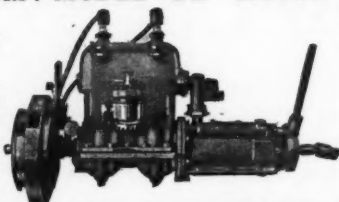
**THE JOHNSON MARINE REVERSE GEAR****MAKES A COMPACT UNIT POWER PLANT**

WHEN USED WITH THE  
**EVINRUDE 4 H.P. MODEL "DD" MOTOR**

This special reverse gear can be made to fit any small motor.

Give your customer what he wants—a unit power plant that saves space and expense.

A Johnson Ball Bearing Gear that will last. Write for catalog No. 25.



Courtesy: Evinrude Motor Co., Milwaukee, Wis.

**THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN**



Write for free catalog with prices, specifications and complete information on outboard motor boats, motor canoes, launches, row-boats, canoes, etc. Buy direct and save money.

**Dunphy Boat  
Mfg. Co.**  
Dept. C-9  
EAU CLAIRE, WIS.

**Dunphy Sand-Dab**

Famous for speed, power and sturdiness. Length, 18 feet; four-cycle Universal motor placed amidship. Makes 12 miles an hour easily. Plenty of room for six. Beaches anywhere—the propeller is protected. Runs in 10 inches of water. Made only by Dunphy, the company that has been "famous for boats for forty years."

**DUNPHY**  
"famous  
for boats  
for forty  
years!"

**Beating the Century***(Continued from page 112)*

following the channel, which is very crooked. So far, we have not shown any signs of being near bottom, although we are cutting corners as much as we dare. Commodore Wood is following my signals to him as to whether he should keep to port or starboard. He is very alert. He misses nothing and is taking a great interest in everything. The great number of people ashore watching us seems to interest him keenly. He waves a hello and a goodbye at them all.

We have passed the several lights and buoys of Stuyvesant and at 7:16 we are entering Coxsackie Channel. In several other boats I have navigated, it has taken us anywhere from fifteen and twenty minutes to go through this channel. Today, we are making it in just two minutes. We are now off the town of Coxsackie and it is 7:18 o'clock. Great crowds of people are on the docks in this town. The many ice houses along the channel seem to be a very popular gathering place for the crowds. These ice houses are always built close to deep water and the crowds seem to know that we will have to pass close to them.

So far our engine has been giving us no trouble. Baby Gar V is one length astern, riding in our wake. We are now off Four Mile Point. It is 7:22. From this point to Athens, some four miles down the river, is one of the few points along the river I am always uncertain about in my navigation. I can follow the channel which leads along the Hudson side of the river, which is deeper and easier to follow; it is longer, but I have decided to take the west channel, which is much shorter, but it is not marked with any kind of buoys, and we must pass over several sections which on the chart show shaded, and I know that means not any too much water.

I pass the signal back to Commodore Wood to go to starboard, which will lead us to the entrance of the west but unmarked channel. The racer responds to the helm. If we can make this part of the cruise successfully, it means the saving of at least a minute in our time. It is worth the chance.

We have been under way on this channel exactly a minute. Mechanician Johnson has just climbed forward and shouted in my ear: "Commodore says prepare to shift boats." I ask for an explanation. "He simply wishes to make more speed," I pass back the message: "Wait three minutes, as along here the channel is very narrow and shallow." I know there will be no slowing up of the boats when we are making the shift of crews. I hope we can get to a wider part of the channel at a point more clearly marked on the chart before we are obliged to shift. The boats might take a bad sheer at this point and send both of them on the mud-flats. It is the worst point on the river.

I almost hold my breath the next few minutes. I am watching the Commodore out of one eye to see what his next move is to be. As yet he has not signalled the other boat to come alongside. He is watching it like an eagle. I can see it is likely to happen any moment now, but we are still making speed, and in another few moments we will be abeam of Athens and the chance will be much better that we can change crews without going ashore or losing valuable time.

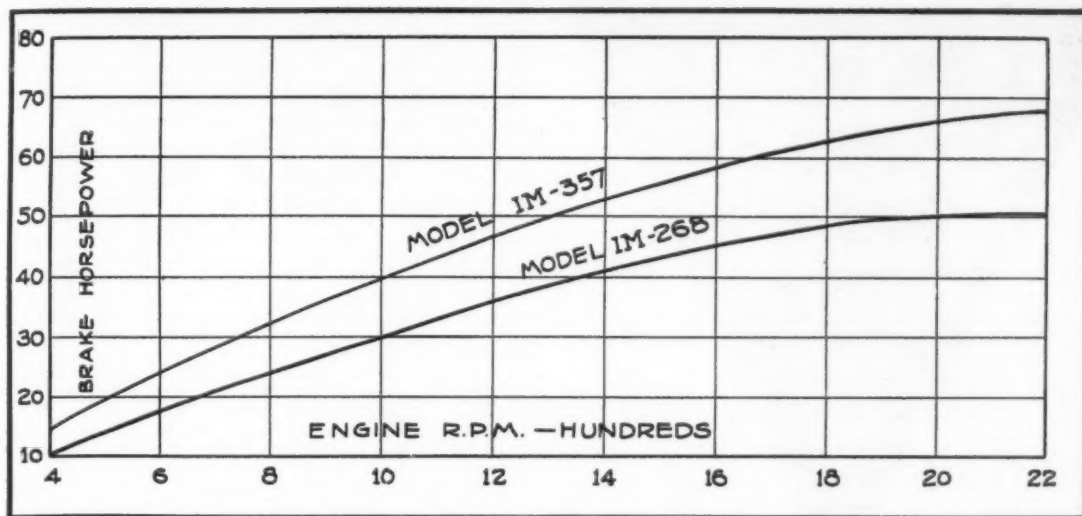
It is now 7:26. Nothing has happened. I give the signal to go to port, which takes us into deep water on the east side of the river. In another minute we bear to starboard and are following the winding bend in the river. Still the Commodore has not given orders for Baby Gar V to come alongside. We are abeam of Catskill. It is 7:33. We again work over to the east side of the river and as I look at my watch, it is exactly 7:35. The Commodore has shut the motor down slightly and signalled the other boat to come alongside.

Commodore Wood and myself are now aboard Baby Gar V. It is now 7:36. Mechanician Kinney is aboard. Geo. Wood is now driving Baby Gar IV. All is going along as though nothing has happened. The two boats have changed drivers and pilot without hardly slowing up. I have all my charts, papers and stop-watches with me. I did not even overlook my faithful slide-rule. My position is now in the forward cockpit of the new boat.

There is a different feeling to Baby Gar V. The motor seems to run much smoother and the boat seems to have more pep. Baby Gar IV is now dropping astern, and the Commodore, I can see, was not satisfied with the speed which the other boat was giving him, although we had averaged better than 48 miles an hour. If we had kept it up, we would have had no difficulty in beating the Century to New York. He has given me no reason for the shift in crews and boats. I have asked for no explanation. I know there is a reason for it. I look astern and I see that Baby Gar IV is dropping rapidly astern. However, she seems to be in no trouble, and running smoothly.

*(Continued on page 122)*





## A range of power for every boat

**L**IGHT weight, high speed, wide range of power—these are the features which make Packard Models IM 268 and IM 357 so suitable for any light boat installation.

Note the horse power curves on the chart above—see how the rated powers at different speeds adapt these

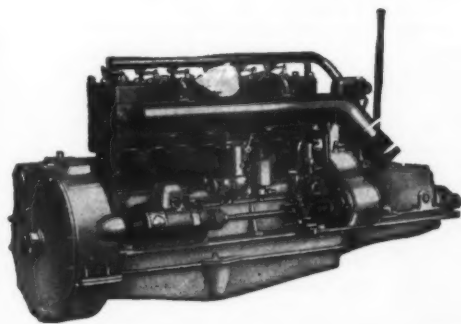
engines readily to all types of boats.

No matter what your craft may be—racing shell, runabout, cabin cruiser or workboat—you will find one of these Packard engines exactly suited to your purpose.

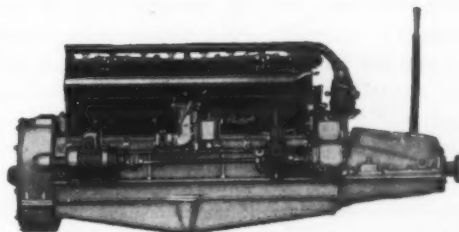
Detailed specifications of these engines will be furnished upon request.

PACKARD MOTOR CAR COMPANY  
DETROIT, MICHIGAN

# PACKARD MARINE ENGINES



MODEL IM 268 is shown at left. Six cylinder. Develops 45 H. P. at 1800 R. P. M. Weighs 625 lbs. Furnished in both right and left hand rotation for twin screw installation. Price \$1500.



MODEL IM 357 at right. Eight cylinder. Develops 60 H. P. at 1800 R. P. M. Weighs 790 lbs. Furnished in both right and left hand rotation for twin screw installation. Price \$2000.

ASK THE MAN WHO OWNS ONE

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York



## Ho-o-o, Shoals Ahead!

**E**VEN NOW the blue billows of the Caribbean are massing and falling on yellow beaches; and the white water is dancing off Gibraltar. Thoughts of the summer cruise, vacation, the out-doors, are once again making men shift nervously at their desks.

The wise man doesn't attempt to throttle such wayward dreams. He subscribes to **COUNTRY LIFE**. Where the pier and pavement end, **COUNTRY LIFE** begins.

Its pages plan estates, dictate modes of architecture, picture beautiful gardens, spy out beautiful interiors, touch authoritatively on horses.....yachting . . . furniture . . . cattle . . . polo . . . dogs . . . landscape gardening . . . statuary . . . the vegetable garden.

We want you merely to see, to touch, **COUNTRY LIFE**. We should like to send it to you, subject to your approval. Merely send in the attached coupon. We shall send you the current issue for your inspection and enter you for a year's subscription at \$5.00. If you are not thoroughly delighted, we shall be glad to cancel the subscription and return all money paid us.

Doubleday, Page & Co., Garden City, N. Y.

Gentlemen: Kindly send me immediately the current issue of **COUNTRY LIFE** for my inspection. Subject to my approval, you are to enter me for a one year subscription at \$5.00. In case I am not thoroughly delighted with the magazine, you will cancel the subscription and refund all money received from me.

(M.B. -7)

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

## Beating the Century

(Continued from page 120)

Five planes are now overhead. Several of them are keeping so close to us that we can almost talk with the aviators. Every few moments the planes seem to stage a little race of their own. It is very interesting. We may be able to run faster than the trains, but we are no match for the planes. They can pass us with apparent ease.

It is getting considerably warmer. The winter weather of the past few days has evidently broken. It is a great pleasure trip. Thrill follows thrill. The crowds are even thicker along this part of the river where we now are than they were on the upper Hudson early this morning. So far, we have not seen the Century. We are something like 45 minutes ahead of its schedule. We are abreast of a train on the Central, but we do not think it is the Century, as we cannot distinguish the colored streamers. However, we are uncertain, yet we are gradually passing it.

We are still on the upper Hudson where navigation is difficult. Fortunately it is high tide. We are close under the west bank of Smith's Landing at 7:41 and can see Saugerties ahead. The buoys are visible ahead only for a few seconds before they are left astern. We are abreast of Saugerties at 7:46 and enter the long, straight run which will take us by Cruger Island and Turkey Point, down to Kingston. Again we choose the west channel, as conditions appear more favorable than along the east channel. Four planes are now abreast of us, trying to keep along with us, two on each side. It is a grand escort. They are flying less than fifty feet high.

It is now 7:58. We are abreast of Kingston and the worst is over. The pilot's job from now on is going to be simple. It is a great relief. Now everything rests with the engine and the helmsman to keep us clear of driftwood which is beginning to get rather thick. At 8:03 we are abreast of Esopus Light and at 8:07 we are leaving Esopus Island astern.

At 8:10 Commodore Wood signals to me to come aft and sit alongside of him. He says the boat will trim better with my weight further aft. The gasoline tanks are located in the extreme stern, and as the boat uses her supply, gradually lessens the weight aft and makes it advantageous to shift weights.

I climb back and take my position alongside of him. This position is more protected, as I am back of a windshield, so can discard my goggles, which I have been wearing since the start. We are now congratulating each other. Everything has been so good so far. Another train has just been passed, but it is not the Century. We are now 50 minutes ahead of the Century's regular schedule. We joke about getting away 45 minutes ahead of time, but they did not find us napping this time.

We have congratulated ourselves too soon. It is 8:15 and we are slowing down. Joe Kinney is now in the engine compartment. The motor sounds different and his trained ear told him something was wrong with the power plant. He raises his head above the hatch and shouts: "Cam shaft housing broken!" We know what it means.

Commodore Wood, like the true sport he is, simply says: "Too bad. We will have to try again." Our speed is now down to a few miles an hour. The shores are still crowded with people. We are nearing Poughkeepsie. Commodore says the crowd will think the boat is a joke. I can see he is keenly disappointed. He says, "Oh, well, we will wait until Baby Gar IV comes along and all go down on her." We have not stopped the motor. We still have some speed down stream.

In five minutes we sight Baby Gar IV about a mile up the river. At 8:22 she is coming alongside. We are to jump over to her and shift boats for the second time.

(Continued on page 126)



## "KAPO" Life Saving Water Vest

A necessity for all who indulge in boating. In addition to being a life preserver it is a warm and comfortable garment you can wear at any time. Nothing to puncture. Will support the heaviest person indefinitely.

Write for our Catalogue

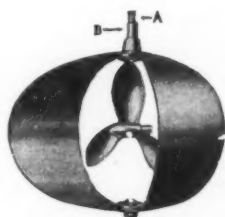
**KAPO PRODUCTS CO.**

Manufacturers of Life Saving Devices—Vests with collars for speed racers—Boat Pillows and Cushions—Outdoor Sleeping Equipment.

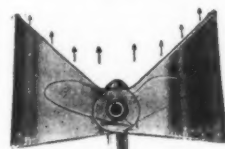
50 TRAVERSE ST.  
BOSTON, MASS.

# Think!

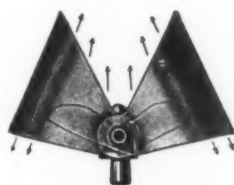
## Can You Hold Your Boat Stationary in a Tide Race Without Having to Anchor?



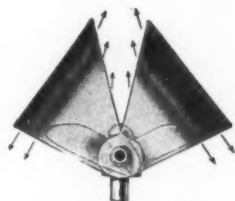
Showing Rudders in Perspective



Full Speed Ahead



Half Speed Ahead



Neutral Position  
Boat Stationary

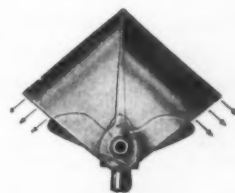
SOME boatmen would say, "What a ridiculous question, of course not." The boats these men own are not modernized. They do not know that a maneuver such as this is possible, and is possible only with the McNab Maneuvering Rudder.

The McNab Rudder has been classed as the most conspicuous contribution to the advancement of boating efficiency, since the invention of the screw driven vessel. It is an outstanding achievement. Just think without touching the engine controls, without a reverse gear and without reversing engines you can perform any of the following maneuvers through the McNab Rudder, while the engine and propeller runs full speed ahead:

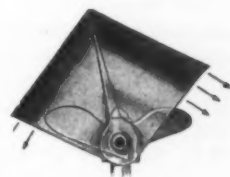
1. Boat can be held stationary as if at anchor.
2. Boat can be rotated on its own axis as if on a pivot.
3. Boat can be made to go astern with engine and propeller running ahead.
4. Boat can be made to go ahead at any speed, ranging from the fraction of a mile per hour to maximum as desired.
5. Boat can be brought from full speed ahead to dead stop in its own length without slowing down the ahead speed of propeller.

The McNab Rudder is applicable to any size propeller driven craft. No boat is too small. No ship is too large. Many hundreds of installations have been made. The United States, British and other Governments have adopted the McNab. Put a McNab Rudder on your boat and own a modernized boat.

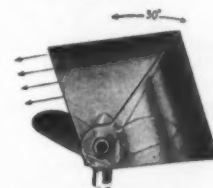
Write today for illustrated literature. State size of propeller diameter and B.H.P. of your engine. Owners of Outboard motors need only give make of motor when writing.



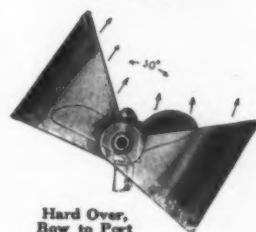
Full Speed Astern



Astern-Bow to Starboard



Rudder Closed, Hard Over, Boat Spinning on Own Center



Hard Over, Bow to Port

## McNAB-KITCHEN RUDDER CORP.

75 John St., Bridgeport, Conn., U. S. A.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York



# Spark Plug Sizes for American Engines

*Standard Spark Plugs Made in Three General Types, S. A. E. Standard on*

*$\frac{7}{8}$ -18,  $\frac{1}{2}$ -Inch or Pipe Size, and the European or Metric Size*

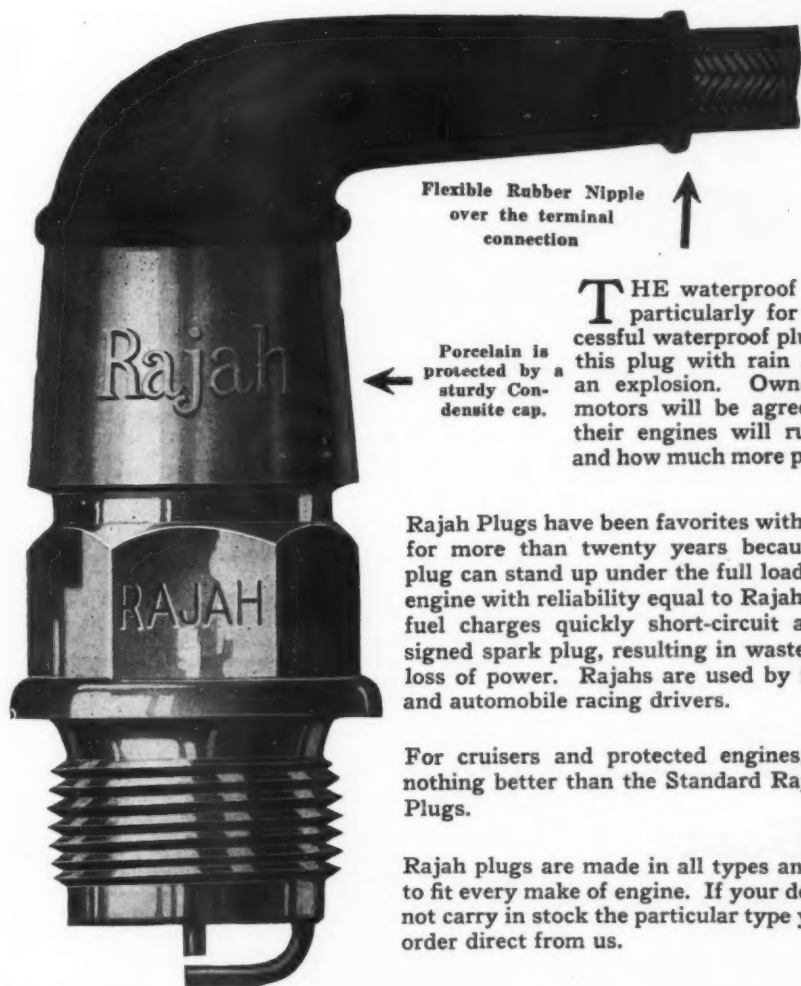
Acadia	Acadia Gas Engine, Ltd. Bridgewater, Nova Scotia, Canada All Engines $\frac{1}{2}$ short	Engines 22 $\frac{1}{2}$ h.p.	Golden Belknap & Swartz Co., Detroit, Mich. $\frac{7}{8}$ -18 short	Peerless	Peerless Marine Motor Corp., Buffalo, N. Y. All Engines 35 to 140 h.p. $\frac{7}{8}$ -18 long 125 and 200 h.p. Metric
Amphion (outboard)	Amphion Marine Engines, Milwaukee, Wis. All Engines 3 h.p. $\frac{7}{8}$ -18 long	Monarch	Grand Rapids Gas Engine Co., Grand Rapids, Mich. Engines 5 to 120 h.p. $\frac{1}{2}$ short	Peru	Peru Model Engine Co., Inc., Peru, Ind. All Engines 12 to 60 h.p. $\frac{7}{8}$ -18 long
Anderson	Anderson Engine Company, Chicago, Ill. All Engines 4 $\frac{1}{2}$ to 50 h.p. $\frac{1}{2}$ long	Grant Liberty Grant Curtiss Engines 100 and 450 h.p. Metric	Grant Marine Motor Co., Detroit, Mich. Metric	Pierce-Budd	Pierce Boutin Motors, Inc., Merrill, Mich. All Engines $\frac{7}{8}$ -18
Capital	Auto Engine Works, St. Paul, Minn. Engines 34 and 65 h.p. $\frac{7}{8}$ -18	Gray	Gray Marine Motor Co., Detroit, Mich. Engines 6 h.p. $\frac{1}{2}$ long 14 to 30 h.p. $\frac{7}{8}$ -18 long	Thorobred	Red Wing Motor Co., Red Wing, Minn. All Engines 4 to 36 h.p. $\frac{7}{8}$ -18 short 32 to 90 h.p. $\frac{7}{8}$ -18 long
Automatic	Automatic Machine Company, Bridgeport, Conn. All Engines $\frac{1}{2}$	Hall-Scott	Hall-Scott Motor Car Co., New York, N. Y. Engines 70 to 200 h.p. Metric, short	Regal	Regal Gasoline Engine Co., Coldwater, Mich. All Engines $\frac{7}{8}$ -18 long
Barker	Barker Factory, Norwalk, Conn. Engines 1 $\frac{1}{4}$ to 8 h.p. $\frac{1}{2}$ long	Hess	Hess Motors Corp., Algonac, Mich. All Engines $\frac{1}{2}$ long	Reliable	Reliable Tractor & Engine Co., Portsmouth, Ohio. All Engines $\frac{1}{2}$
Beaver	Beaver Motor Company, Milwaukee, Wis. Engines 40 to 73 h.p. $\frac{7}{8}$ -18 long	Hinkley	Hinkley Motors, Inc., Detroit, Mich. All Engines $\frac{7}{8}$ -18 long	Roberts	Roberts Motors, Sandusky, Ohio. All Engines 16 to 35 h.p. $\frac{1}{2}$
Brennan Standard	Brennan Motor Mfg. Co., Syracuse, N. Y. Engines 17 to 75 h.p. Metric	Johnson (outboard)	Johnson Motor Co., South Bend, Ind. Engines 11 $\frac{1}{2}$ and 2 $\frac{1}{2}$ h.p. Metric	St. Lawrence	St. Lawrence River Motor & Machine Co., Clayton, N. Y. Engine 18 h.p. $\frac{1}{2}$
Bridgeport	Bridgeport Motor Company, Inc., Bridgeport, Conn. Engines 7 to 60 h.p. $\frac{1}{2}$ long	Globe and Liberty	Johnson Motor Products Co., New York, N. Y. Engines 400 and 450 h.p. Metric, short	Scripps	Scripps Motor Co., Detroit, Mich. All Engines $\frac{7}{8}$ -18 long
Imperial	Bruce Stewart & Company, Charlottetown, P. E. Island. Engines 4 to 30 h.p. $\frac{1}{2}$ long	Kermath	Kermath Mfg. Co., Detroit, Mich. All Models $\frac{7}{8}$ -18 long	Motorgo	Sears, Roebuck & Co., Chicago, Ill. All Engines $\frac{1}{2}$ Rowboat Engine $\frac{7}{8}$ -18
Buffalo	Buffalo Gasoline Motor Company, Buffalo, N. Y. Engines 14 to 80 h.p. $\frac{7}{8}$ -18 Engines, heavy duty, 10 to 150 h.p. $\frac{1}{2}$	Barber	King Brothers, Syracuse, N. Y. Engines 4 and 8 h.p. $\frac{1}{2}$ long	Spinaway (outboard)	Spinaway Boat Motor Co., Freeport, Ill. All Engines Metric
Cadyford	C. N. Cady & Company, Inc., Canastota, N. Y. All Engines $\frac{1}{2}$	Koban (outboard)	Koban Motor Company, Milwaukee, Wis. Engine 3 h.p. $\frac{7}{8}$ -18 short	Standard	Standard Motor Construction Co., Jersey City, N. J. All Engines $\frac{7}{8}$ -18
Caille (outboard)	Caille Perfection Motor Co., Detroit, Mich. All Engines $\frac{7}{8}$ -18	Lathrop	Lathrop & Company, Mystic, Conn. All Engines $\frac{7}{8}$ -18 long	Stearns Extra Reserve	Stearns Motor Mfg. Co., Ludington, Mich. All Engines $\frac{7}{8}$ -18 long
Carl	Carl Engine & Machine Works, Philadelphia, Pa. All Engines $\frac{1}{2}$	Le Roi	Le Roi Company, Milwaukee, Wis. All Engines 15 h.p. $\frac{7}{8}$ -18 short	Sterling	Sterling Engine Co., Buffalo, N. Y. Engine 12-15 h.p. $\frac{1}{2}$ short All Engines 100 to 300 h.p. $\frac{7}{8}$ -18 short
Bud E	Carlisle Johnson Machine Co., Manchester, Conn. Engine 5 h.p. $\frac{7}{8}$ -18 long	Fisherman	Loane Engineering Company, Baltimore, Md. All Engines 3 $\frac{1}{2}$ to 24 h.p. $\frac{1}{2}$ Special	International	Sutter Brothers, New York, N. Y. Engine 16 h.p. $\frac{1}{2}$
Speedway	Consolidated Shipbuilding Corp., Morris Heights, N. Y. All Engines 22 to 150 h.p. $\frac{1}{2}$ short All Engines 180 to 300 h.p. $\frac{7}{8}$ -18	L-A	Lockwood-Ash Motor Co., Jackson, Mich. All Engines 2 $\frac{1}{2}$ to 8 h.p. $\frac{1}{2}$ (outboard) 2 and 3 h.p. $\frac{7}{8}$ and Metric	Universal	Universal Motor Co., Oshkosh, Wis. All Engines 9 to 12 h.p. $\frac{1}{2}$ short All Engines 9 to 15 h.p. $\frac{7}{8}$ -18 short
Detroit Marine	Detroit Marine Aero Eng. Co., Detroit, Mich. Engine 300 h.p. Metric	Loew Knight	The Loew Mfg. Company, Cleveland, Ohio. All Engines 20 to 200 h.p. $\frac{7}{8}$ -18 short 60 to 280 h.p. $\frac{7}{8}$ -18 long	Doman	Universal Products Co., Oshkosh, Wis. Engine 5 h.p. $\frac{1}{2}$ long All Engines 7 to 50 h.p. $\frac{7}{8}$ -18
DuPont	DuPont Motors, Inc., Wilmington, Del. Engines $\frac{7}{8}$ -18 short	Mianus	Mianus Engine Co., Stamford, Conn. Engine 40 h.p. $\frac{7}{8}$ -18	Vulcan	Vulcan Engine Works, Philadelphia, Pa. All Engines $\frac{1}{2}$
Evansville	Evansville Gas Engine Works, Evansville, Ind. All Engines $\frac{1}{2}$	Miller	Miller's Motor Corp., Chicago, Ill. All Engines $\frac{7}{8}$ -18	W-S-M	Weilman-Seaver-Morgan Co., Cleveland, Ohio All Engines 28 to 60 h.p. $\frac{7}{8}$ -18 long
Elto (outboard)	Elto Outboard Motor Co., Milwaukee, Wis. Engines 3 h.p. Metric, short	N. J. M.	New Jersey Motors, Inc., Keyport, N. J. Engine 15 h.p. $\frac{1}{2}$ Engine 20 h.p. $\frac{7}{8}$ -18 long	Winton	Winton Engine Works, Cleveland, Ohio. All Engines 80 to 250 h.p. $\frac{7}{8}$ -18 long Generator Engines $\frac{7}{8}$ -18 long
Erd	Erd Motors Corporation, Saginaw, Mich. Engines 12 to 40 h.p. $\frac{7}{8}$ -18 short	20th Century	N. Y. Yacht Launch & Eng. Co., Morris Heights, N. Y. Engines 50 to 100 h.p. $\frac{1}{2}$ long	Wisconsin (outboard)	Wisconsin Machinery & Mfg. Co., Milwaukee, Wis. All Engines $\frac{1}{2}$ long
Evinrude (outboards)	Evinrude Motor Co., Milwaukee, Wis. All Engines 2 to 4 h.p. $\frac{7}{8}$ -18 Model L 4 h.p. $\frac{7}{8}$ -18 long	Niagara	Niagara Motors Corp., Dunkirk, N. Y. Engine Model S $\frac{1}{2}$ long Engines Models G, E and D $\frac{7}{8}$ -18 long	Wisconsin	Wisconsin Motor Mfg. Co., Milwaukee, Wis. All Engines $\frac{7}{8}$ -18 short Model AM 36 h.p. $\frac{7}{8}$ -18 short Models SM, YM, 25 and 27 h.p. $\frac{7}{8}$ -18 long
Everett	Everett Bros. Motor Co., Brunswick, Ga. Engines 24 to 30 h.p. $\frac{7}{8}$ -18 long	Olmstead	A. E. Olmstead & Sons, Pulaski, N. Y. All Engines 2 to 28 h.p. $\frac{1}{2}$ long	Wolverine	Wolverine Motor Works, Inc., Bridgeport, Conn. All Engines $\frac{1}{2}$ extra long
F. & B.	Fay & Bowen Engine Co., Geneva, N. Y. All Engines 8 to 90 h.p. $\frac{7}{8}$ -18	Packard	Packard Motor Car Co., Detroit, Mich. All Engines 45 and 60 h.p. $\frac{7}{8}$ -18 200 to 400 h.p. Metric	Woodhouse	Woodhouse Gas Engine Co., Seattle, Wash. Engines 4 and 8 h.p. $\frac{1}{2}$ short
Frazer Adams	Frazer Bros. Co., Adams, N. Y. All Engines $\frac{1}{2}$	Palmer	Palmer Bros. Engine Co., Cos Cob, Conn. Engines 4 cycle models $\frac{7}{8}$ -18 Engines 2 cycle models $\frac{1}{2}$	Wright Reliable	Wright Aeronautical Corp., Paterson, N. J. All Engines 260 to 550 h.p. Metric
Frisbie Valve-in-Head	Frisbie Motor Co., Middletown, Conn. All Engines 5 to 60 h.p. $\frac{1}{2}$ 15 to 115 h.p. $\frac{7}{8}$ -18	Waterman	Pausin Engineering Co., Newark, N. J. All Engines $\frac{1}{2}$ long	Wright Marine	The Wright Machine Co., Wenabro, Ky. All Engines 10 to 90 h.p. $\frac{1}{2}$ long
Greenport	J. S. Gaffga & Co., Greenport, N. Y. Engines 12 and 18 h.p. $\frac{1}{2}$ long				

# Use —

# RAJAH

## SPARK PLUGS

And you will have a **BETTER** engine  
Get a set today from your dealer



Flexible Rubber Nipple  
over the terminal  
connection

Porcelain is  
protected by a  
sturdy Con-  
densite cap.

*The Waterproof RAJAH  
is standard factory equip-  
ment on several well known  
makes of marine engines and  
outboard motors*

**T**HE waterproof type Rajah Spark Plug, designed particularly for marine engines, is the only successful waterproof plug on the market. You can drench this plug with rain and spray and it will never miss an explosion. Owners of open boats and outboard motors will be agreeably surprised how much better their engines will run with waterproof Rajah Plugs, and how much more power they will get.

Rajah Plugs have been favorites with boat owners for more than twenty years because no other plug can stand up under the full load of a marine engine with reliability equal to Rajah. The heavy fuel charges quickly short-circuit a poorly designed spark plug, resulting in waste of fuel and loss of power. Rajahs are used by famous boat and automobile racing drivers.

For cruisers and protected engines, there is nothing better than the Standard Rajah Spark Plugs.

Rajah plugs are made in all types and threads to fit every make of engine. If your dealer does not carry in stock the particular type you want, order direct from us.



Standard Rajah Plug

**RAJAH AUTO SUPPLY CO., BLOOMFIELD, N. J., U. S. A.**

*Marine Distributors of Rajah Spark Plugs and Terminal*

Geo. M. Auten & Co., New York  
E. J. Willis Co., New York  
R. W. Zundel Co., New York

Chandler & Farquhar, Boston  
Rapp-Huckins Co., Boston  
Geo. B. Carpenter & Co., Chicago  
Henry H. Smith & Co., Detroit

Marine Equipment & Supply Co., Phila.  
Gas Engine & Boat Corp., Norfolk, Va.  
D. M. Jones, Elizabeth City, N. C.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating, 119 West 40th Street, New York

**\$37****Puts This Motor on Your Boat**

Only \$37.00—then no more rowing—no more blistered hands and aching muscles. Our

**"Pay as You Play"**

plan makes it easy to take care of the balance. Covers any Caille motor. Ask your dealer or write us for details.



**CAILLE 5 Speed Twin**

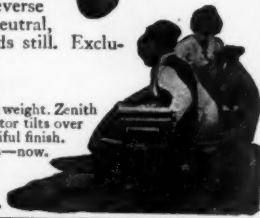
Speed changes made mechanically and positively by raising or lowering steering handle in ratchet. Provides high speed forward, trolling speed, fast reverse, slow reverse and neutral. When set at neutral, motor runs while boat stands still. Exclusive Caille feature.

**Other Features**

Twin cylinders—no vibration. Light weight. Zenith carburetor. Eisemann magneto. Motor tilts over obstructions. Rope starter. Beautiful finish. Fully guaranteed. Send for details—now.

**THE CAILLE PERFECTION MOTOR CO.**  
6314 2nd Blvd. Detroit, Mich.

The only motor that gives you big launch control of your rowboat

**HIGH EFFICIENCY SEARCH-LIGHTS****Arc or Incandescent**

Here's a light that floods your course with the brilliance of the sun. Brings out objects as clear as you would see them by day. These searchlights, manufactured of non-corrosive materials, not only make for safety, but also add snap to the appearance of any boat.

**STURDY BRONZE FITTINGS  
SPECIAL GLASS MIRROR REFLECTOR**  
Size: 7" to 66" in diameter.

6, 12, 32 Volt Incandescent Searchlights.  
110 Volt Arc or Incandescent Searchlights.

Illustrated literature sent promptly upon request to

**THE CARLISLE & FINCH CO.**  
261 East Clifton Avenue Cincinnati, Ohio

**Cape Cod Boats  
POWER-ROW-SAIL**

Sturdy Outboard Motor Boats, \$49.00 and \$132.00. Combination Row, Sail and Outboard Motor Boats, \$125.00. 20 ft. Smooth Planked Power Launches, \$583.00. Junior Sail Boats, \$240.00, and Cape Cod Baby Knockabouts, \$436.00.

Send for complete catalog.

**Cape Cod Ship Building Corp.**  
Wareham, Massachusetts

**Beating the Century**

(Continued from page 122)

We are now back in our old ship again. It seems good to have her. We feel confident that she will carry us through. We are again showing good speed, about 49 miles an hour now. A strong ebb tide is helping us along. Crowds line the Poughkeepsie shores. We can hear whistles blowing. We look astern and see that Baby Gar V is out of the race for good. They are taking her ashore but we continue on.

We hear mechanic Johnson call to us "There goes the train," and as we look over to the east bank of the river, just astern, we see the long train with the yellow and white streamers waving from several windows and the rear platform. We recognize our friend, the Century. It has not caught us but it is gaining. We put on more speed. The train cannot reach us but is holding her own. We put on still more speed as the Century disappears behind the bank near Poughkeepsie.

Down the wide stretches of the Hudson we are now sailing at full speed ahead as our lead has been challenged. We can see crowds of people on the banks and hilltops almost continuously between Poughkeepsie and Newburgh. We are abeam of this city at 8:42. At 8:53, we round West Point. The entire cadet corps seems to be on the bank of the river. We can hear them cheering. A number of them are on top of the drill halls.

The ferryboat Garrison which runs across the river at this point, stops dead and lets us pass. This was considerate of her, not to raise any swell. She is whistling, perhaps she has not enough steam to run her engines while the whistle is blowing.

We have not seen the Century since we lost her at Poughkeepsie. We have again slowed down slightly as a precaution to save our engine. We seem to have more speed than is actually necessary to beat the train but with only one boat instead of two, it is necessary for us to play safe. We pass under the new Bear Mountain Bridge, at exactly 9:00. The bridge is lined with automobiles which are parked there to see the race. They all wave to us as we dash under the bridge.

The Century has just come alongside again with the orange and white streamers. It is a grand sight to see her following us. Our course is slightly shorter, as we do not have to follow the bends of the river. We are running from point to point taking the shortest possible way. We are again giving the boat more speed and once again will leave the Century astern.

At Peekskill, where we are at 9:45, we cannot see the Century. It seems to have slowed up for some reason. At 9:07, we are starting our run across Haverstraw Bay. It is getting a little choppy but nothing serious. We are heading directly for Rockland Light. We reach it at 9:17, having made the eight miles in exactly ten minutes. This is a speed of exactly 48 miles an hour. I pass the information back to Commodore Wood. He simply smiles.

Tarrytown is abeam at 9:25. We can see the tall buildings of Manhattan but we still have twenty miles to go and must not become enthusiastic. We realize that lots can happen.

The driftwood is becoming rather bad but Commodore Wood, ever alert, is successfully dodging all of it.

At 9:37 we are abeam of Yonkers, keeping close to the Jersey shore. We cannot make out the train astern. At exactly 9:42 we are abeam of the upper end of Manhattan also. Three minutes later, Fort Washington Point is abeam and at 9:47 we pass under the quarter of the Fort Lee ferry as everyone on board gives us a cheer. Commodore Wood opens the throttles. We are now going better than fifty miles an hour. We can see the crowds along Riverside Drive and the Palisades. There are many on the tops of the apartment houses on the Manhattan side.

At exactly 9:50 o'clock, we are abeam of the Columbia Yacht Club, the finishing point of the race, as far as we are concerned. Great crowds are gathered at the club. Those that cannot find space within the club grounds find a vantage point along the Drive and the river front. Several portable radio sets are in the crowd. They have been watching our progress all the way down the river, they tell us as we come ashore and have been able to follow us all the way down.

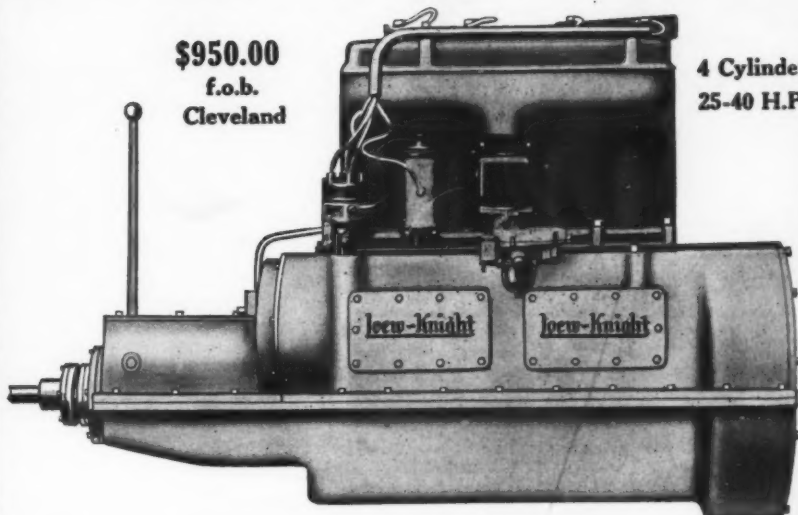
Our running time from Albany has been two hours and fifty-eight minutes, a very remarkable showing. The average speed, about 47 miles an hour. The boats have not been forced in the slightest. We are sure that Baby Gar V. could have bettered this time by fully thirty minutes. Baby Gar IV. could have probably beaten it twenty minutes.

The Century arrived at 10:28 Daylight Saving Time. We have beaten her in by 38 minutes, and beaten her schedule time of arrival by 50 minutes.



**\$950.00**  
f.o.b.  
Cleveland

**4 Cylinder**  
**25-40 H.P.**



## A New and Keener Pleasure

You will find a new and keener pleasure in your yachting or motor boating when your engine is a Loew-Knight. Here is a decidedly different gasoline engine—because it has sleeve valves—a fundamental, advantageous difference in favor of the Loew-Knight. No valves to grind. No carbon to remove. The only marine engine that improves with use. Sizes—25 H.P. to 300 H.P. Write today for details.

### THE LOEW MANUFACTURING CO.

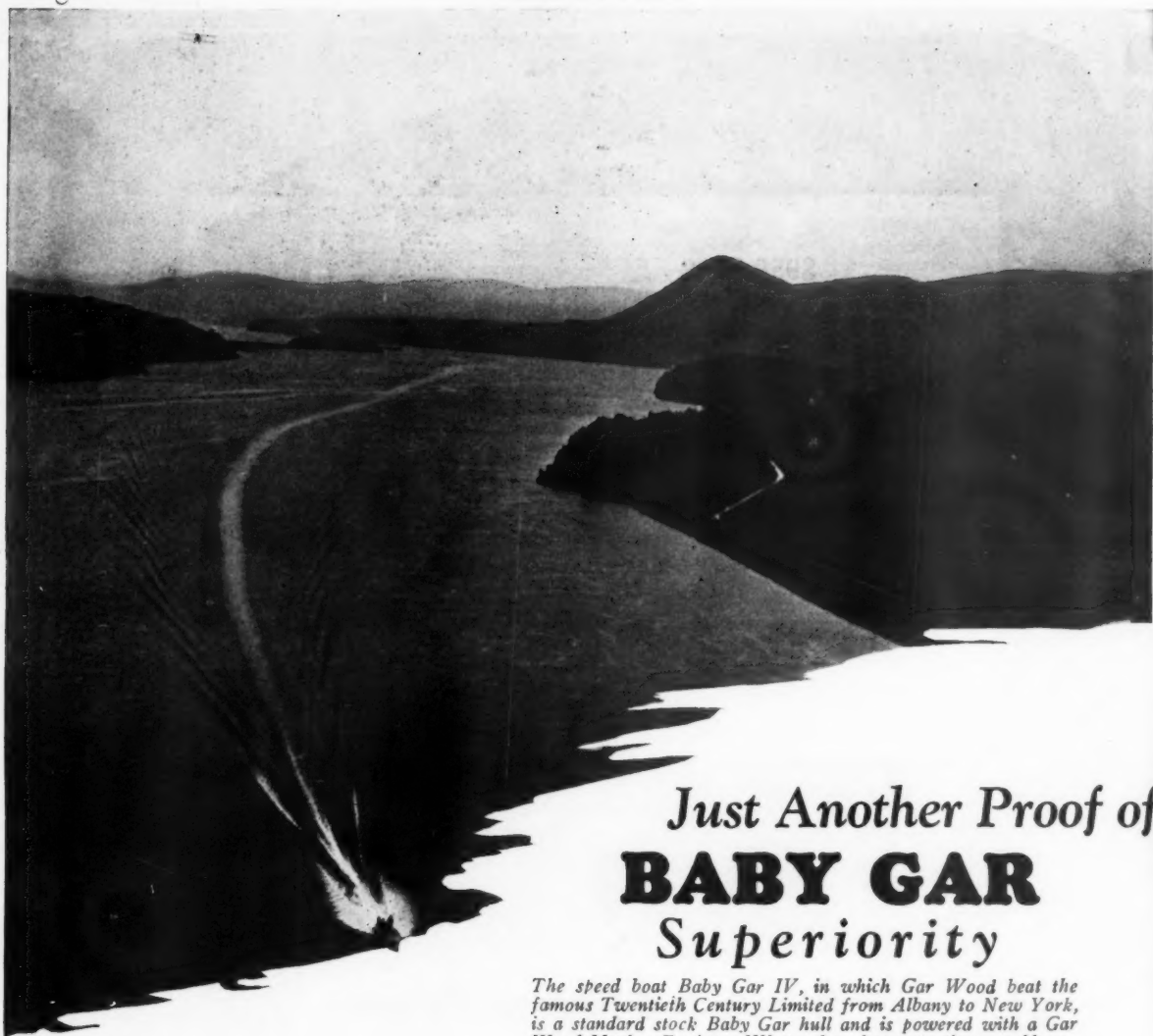
Sole Licensee and Manufacturer of Knight Marine Engines

EARL H. CROFT, Sales Division

9004 Madison Avenue, N. W.

CLEVELAND, OHIO, U. S. A.

# Loew-Knight



## Just Another Proof of **BABY GAR** Superiority

*The speed boat Baby Gar IV, in which Gar Wood beat the famous Twentieth Century Limited from Albany to New York, is a standard stock Baby Gar hull and is powered with a Gar Wood-Marine Engine. What other demonstration would you like to see to prove the unequalled ability of this wonderful boat?*

**O**UR claim that the Baby Gar is the world's fastest, most reliable and most seaworthy standardized runabout is substantiated not only by stunts like racing the Twentieth Century Limited, but also by every race in which Baby Gars have participated.

The Baby Gar is a wholesome and handsome gentleman's runabout with the speed of a racing boat. It is comparable only to the highest grade motor cars. But you can enjoy it better, because there are no speed laws or traps on the water highways. And, too, the Baby Gar is easier and safer to drive. Your blood will tingle with its speed.

*Two Baby Gars, with the latest improvements, are available for July delivery. Write or phone for demonstration appointment today. Enjoy a summer of real fast boating.*

### **HOWARD W. LYON**

EXCLUSIVE DISTRIBUTOR

Gotham National Bank Building, 1819 Broadway, New York City

Telephone: Columbus 1212

BUILT BY

**GAR WOOD, Inc.**

409 Connecticut Ave.

Detroit, Michigan



# "It's a Great Satisfaction to Know You Can Put So Much Dependence on the



**FLORIDA  
CITRUS EXCHANGE**  
1001 Majestic Building  
Detroit

H. C. MacCLAREN,  
District Manager.

OCTOBER 8, 1924.

ERD MOTORS CORPORATION,  
SAGINAW, W. S. MICH.  
GENTLEMEN:—

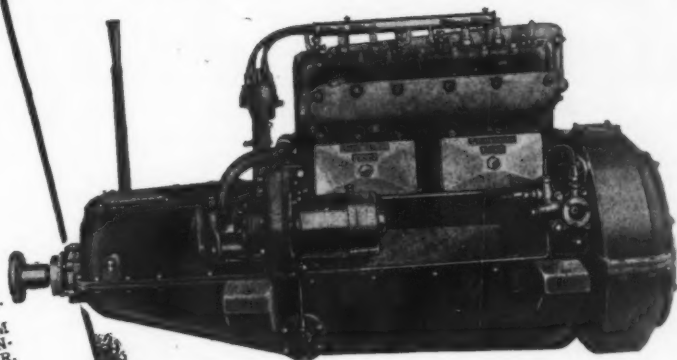
ATTENTION W. A. CARRELL, PRES.

THIS SPRING I PURCHASED FROM  
YOU AN ERD S-4 MOTOR AND IN-  
STALLED IT IN MY 30 FT. CRUISER.  
I HAVE QUITE A HEAVILY CON-  
STRUCTED BOAT. HOWEVER THIS  
MOTOR DRIVES MY BOAT BE-  
TWEEN FOURTEEN AND SIXTEEN  
MILES PER HOUR. AND IT IS A  
GREAT SATISFACTION TO KNOW  
THAT YOU HAVE A MOTOR THAT  
YOU CAN PUT SO MUCH DE-  
PENDENCE ON.

I HAVE FOUND THIS MOTOR  
STARTS VERY EASILY. IT HAS  
PRACTICALLY NO VIBRATION AND  
I GET AN EXCEPTIONALLY GOOD  
MILEAGE ON THE GAS CONSUMP-  
TION.

I HAVE BEEN OUT ON LAKE  
ERIE ON SEVERAL OCCASIONS  
WHEN WE HAD A PRETTY STIFF  
SEA ROLLING. AND THIS MOTOR  
PERFORMED WONDERFULLY.

VERY TRULY YOURS,  
(SIGNED) H. C. MacCLAREN.



IT is the perfection of the ERD Motor down to the last detail of its design and construction, with many features heretofore used in only the highest priced engines, that makes possible such owner satisfaction as expressed in H. C. MacClaren's letter.

The ERD gives unusual power for its size bore and stroke, together with great fuel economy, quick acceleration and flexibility. It is free from vibration at all speeds.

Few engines can claim a more clean cut appearance than the ERD. It is handsomely finished, with every moving part enclosed and every adjustment accessible for easy maintenance.

If your runabout or cruiser needs a medium speed or high speed engine developing 20 H. P. at 800 R. P. M., up to 42½ H. P. at 2100 R. P. M., don't fail to get full specifications and price of this wonderful ERD. **Write today**

## Specifications

Massive, three-bearing, CHROME-NICKEL STEEL crankshaft.

Largest bearings of any motor its size. End play adjustment for crankshaft—the only Marine Motor so equipped.

Lubrication—full force feed system by internal gear pump through HOLLOW CAMSHAFT and drilled crankshaft to all bearings.

Main bearings, connecting rod bearings, and even camshaft bearings bronze back, nickel babbitt lined type.

Main bearings studs, connecting rod bolts, even cylinder head studs, nickel steel, heat treated.

Extra large valves of nickel steel alloy.

Hollow valve tappets, easily removable without disturbing valves.

Bronze gear water pump with salt water fittings throughout.

Most cleverly designed hot-spot manifold. PARAGON REVERSE GEAR, nickel steel shaft, running on double row angular and thrust ball bearings. Stuffing box.

All working parts completely enclosed. No oil leaks.

Not a single grease cup on the whole motor.

UNBELIEVABLE POWER! More than 22½ h.p. at 1,000 R.P.M., 35 h.p. at 1,600 R.P.M., 42½ h.p. at 2,100 R.P.M.

## ERD MOTORS CORP.

### SAGINAW, MICHIGAN

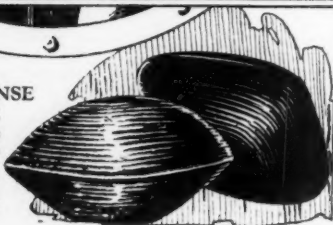


## Ford Charcoal Briquets



**Best Fuel for Galley Use**

BURN  
TWICE AS LONG  
AS LUMP CHARCOAL  
UNIFORM SIZE—INTENSE  
HEAT—NO SMOKE  
LITTLE ASH—PACKED  
IN PAPER OR BURLAP  
BAGS—DISTRIBUTORS  
IN MANY CITIES.



*Ford Motor Company*

BY-PRODUCT SALES DEPT.  
DETROIT, U. S. A.



TYPE "A"

## "Gang-Way"

The FEDERAL  
ELECTRIC SIREN  
gets **instant** attention. It is  
the recognized Marine call  
—in use everywhere.

**\$50.00**

**COMPLETE**

Your Boat should have one.  
Made in 6, 12, 18, 24, 32,  
110, 220, or 250 volts.

Operates either A. C. or D. C. Copper, Brass,  
or Nickel on Copper or Brass Finish. Price,  
only \$50.00. Send coupon today. Be sure to  
give voltage desired.

FEDERAL ELECTRIC COMPANY,  
8700 S. State Street, Chicago, Ill.

Send Type "A" FEDERAL SIREN, \$50.00 complete,  
for .... volts, and if not pleased I will return it pre-  
paid for credit.

Name .....  
Address .....  
City ..... State ..... (MB-7)

## Up the Hudson and Down Again

(Continued from page 26)

we were abeam of Germantown, just below Catskill, the attempt for a record had to be abandoned. But the capabilities of Teaser were well demonstrated, and it was decided at the time that just as early as possible in the spring we would again make the attempt.

It was about May Fifteenth when George J. Meade, Chief Engineer of the Wright Aeronautical Corporation and the one person chiefly responsible for developing the Wright marine engine which won such fame in Miss Columbia and Baby Bootlegger last summer, announced that Teaser would be launched in a few days and requested the writer to be ready to give the boat some time trials in order to determine whether her speed had fallen off any during the winter months.

The trials were held on Manhasset Bay, Monday, May Eighteenth. Teaser ran the one-half mile measured course at a speed of 53 miles an hour with a Hyde propeller and the motor turning 2,100 revolutions per minute. This was considered fast enough to make the run up the river to Albany and return, so the test was scheduled for the following Wednesday, May Twentieth, the start to be from the Columbia Yacht Club at 8 A. M.

The day of the run dawned fair but with a thick fog enveloping the lower Hudson from shore to shore. As the water surface was glassy smooth the fog was not considered sufficient excuse for postponement, so preparations were made to get underway according to schedule. The preparations were not very difficult as Teaser is such a trim and complete little ship, she is always ready to go. In fact there were no special preparations made other than to see that the fuel tanks were full, as the first stop was to be some 140 miles up the river, it was hoped. All the regular equipment was carried and there were no extra tanks or gasoline cans aboard. It was merely step aboard and let's go.

Aboard Teaser were George T. Meade who acted as helmsman and was in full charge of the boat, Theodore Carlisle of the Wright Company, C. Christiansen and the editor of MOTOR BOATING who was to be navigator and time keeper.

It was just 7:55 o'clock when Mr. Meade gave the engine the full throttle and the tachometer showed 2,100 r.p.m. and the bow of Teaser was headed North. There was a strong flood current flowing and our time of start had been so timed that we should carry a favorable current with us all the way to Albany which should add at least one mile an hour to our speed.

The fog was still quite thick but as we could see ahead for a distance of perhaps 100 yards, we felt safe enough and headed the boat over to the Jersey shore so that the top of the Palisades were just visible through the fog.

There is not much to tell about the rest of the run. It was just one glorious thrill after another. Just speed, speed, speed. The towns and other familiar land marks were passed with such rapidity as to be hardly recognizable. The throttle was open full all the time and not once did the faithful Wright falter from its clocklike rhythm, purring off its 2,100 revolutions per minute. There was nothing unpleasant about the trip. The journey via Pullman car could not have been more comfortable. As the water was smooth, there was no jump to the boat and the only motion was constantly forward. It was cold to be sure and the 55-mile an hour breeze in one's face added to this, but it was invigorating.

As a rule, logs of cruises are uninteresting but in this instance, a mention of the times which we passed some of the more important points along the Hudson in faster time than has ever been made before on water or on land, should be made.

Yonkers was abeam at 8:08, just thirteen minutes after leaving 86th St. The distance to this point is 11 miles, so our speed so far had been 51 miles per hour. We were off Nyack at 8:19 and at 8:40 we passed under the Bear Mountain Bridge. West Point passed out of sight five minutes later and at 8:55, just one hour from our time of start we were opposite the city of Newburgh, and still going strong. Newburgh by water is 53 miles from the Columbia Yacht Club, so our first hour's run had not been so bad.

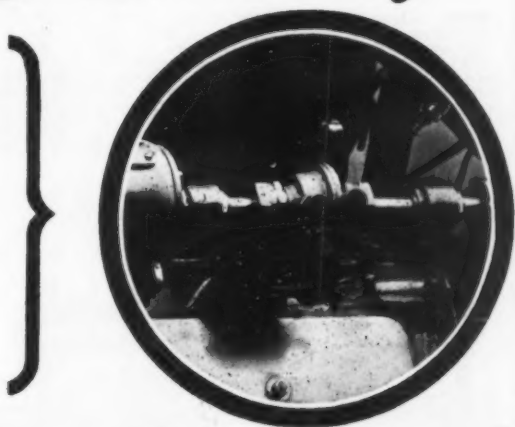
At 9:12 we passed under Poughkeepsie Bridge and at 9:30 Kingston, 93 miles from New York, was abeam. We were now on the narrow reaches of the upper Hudson where navigation was more difficult but this in no way effected our speed. It was not hard to use our charts as the forward cockpit of Teaser was sufficiently protected from the breeze to make this work easy.

At 10:35, we dashed past the Albany Yacht Club, where a large delegation of members and citizens of Albany greeted

(Continued on page 132)

# Grease Coated Cylinder Jackets Reduce Cooling Efficiency

Improper Lubrication of the water pump is just as harmful to an engine as poorly refined fuel. One causes grease covered jackets and pump leaks, the other causes carbon. Both are injurious to the engine.



## Kasson Lubricating Compound Stays Put and Stops Pump Leaks



**K**ASSON Lubricating Compound is a positive lubricant for water pump bearings. Its ability to **stay put** and **not emulsify with water** prevents pump leaking at bearings. It will not travel with cylinder cooling water or coat the cylinder jackets with a layer of grease, reducing cooling efficiency. This is not a new product. Kasson Lubricating Compound has been used for 35 years in marine service on all types of power boats, from small motor craft to large vessels.

*Manufacturers of the world's finest motor cars, Pierce-Arrow, Rolls Royce, Locomobile and others use Kasson Lubricating Compound*

**Used by GAR WOOD**

Sold in one pound cans only. Delivered postpaid anywhere east of the Rocky Mountains for fifty cents per can—stamps, coin, money order or check—sixty cents on Pacific Coast. If shipped C. O. D. ten cents additional.

*Descriptive folder sent on request*

Manufactured only by the

**ENTERPRISE OIL COMPANY**

*Established 1884*

**BUFFALO, NEW YORK**

**Manufacturers of DUPLEX Motor Oils and Greases—used and sold by all  
Pierce-Arrow Distributors throughout the world since 1901**

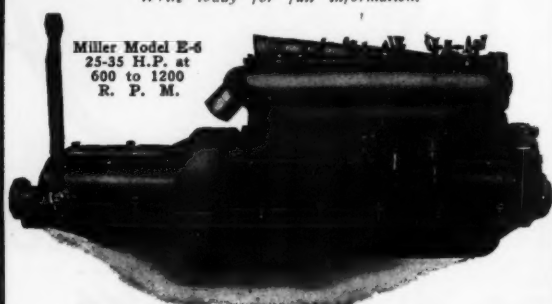
## High Grade FOUR CYCLE Marine Motors



THE modern design of the Miller incorporates the most advanced marine engineering features which are immediately apparent, even to the uninitiated. Some of these features are to be found only on the highest priced marine engines, and yet you can get them on the popular priced Miller motors. Hand hole plates of generous size are provided on both sides of the engine and on the reverse gear case giving ready access to interior. Wearing parts are sturdily built to minimize wear, upkeep and trouble. You owe it to yourself to investigate the Miller, a product of twenty years' experience in building marine engines of the better class.

The Miller line consists of eleven models ranging from 4 to 50 H. P.

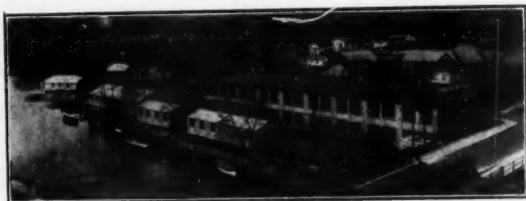
Write today for full information.



Miller Model E-6  
25-35 H.P. at  
600 to 1200  
R. P. M.

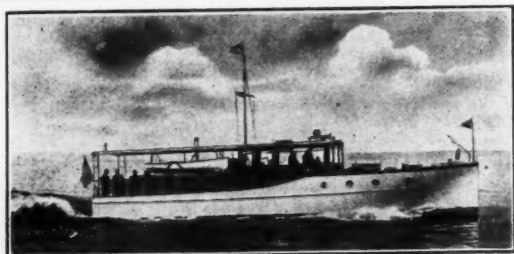
**MILLERS MOTOR CORPORATION**  
2333 North Talman St., Chicago, Ill.

## PENN YAN BOATS



Ask your Dealer or Write to us

**PENN YAN BOAT COMPANY, INC.**  
Penn Yan, New York



55-foot enclosed bridge cruiser

Standardized cruisers 33, 36, 40, 45, 50, 55 and 62 feet and runabouts 26 and 28 feet in length. Special or custom jobs any size or type up to 150 feet in length.

**ROCHESTER BOAT WORKS, INC.**  
10 Charlotte Station Rochester, N. Y.  
Originators of the standardized enclosed bridge deck.

## Up the Hudson and Down Again

(Continued from page 130)

us. Our running time from New York had been 2 hours, 40 minutes. The distance is 137 miles, so our average speed figured 51.3 miles per hour.

After a lunch, tendered to us by Commodore Coleman and members of the Albany Yacht Club and after Teasers' tanks had been refilled with a mixture of 50% high test gas and 50% benzol, we were ready to start down the river again in an effort not only to break the record we had made on the up-trip but to finish the first one-day round trip which has ever been made on the Hudson between New York and Albany.

It was 1:35 P. M. when we cast off from the pier of the Albany Yacht Club, and one hour and three minutes later we were sailing past Kingston. So far we had gained just two minutes on our time up the river. Seventeen minutes later when we passed under Poughkeepsie Bridge, we had gained another minute but our joys were not to be long lived, for at this point we ran into a strong head wind, which blow-

(Continued on page 134)

## Moonshine—A Speedy Little Hydroplane

(Continued from page 41)

trick. I have not mentioned the kind of wood to be used for the planking. Cedar would be first choice, followed by fir, mahogany, sap cypress, butternut, spruce, and white pine. I should paint the entire hull, decks and all, for paint makes a very smooth surface if the coats are laid on thin and many are applied.

The deck beams will be made of  $\frac{3}{4}$  by 2-inch spruce and are set on the forward side of every frame. They should be fastened both into the frame and into the shelf, using galvanized wire nails for the purpose. The deck will be laid with any of the various brands of plywoods. This should not be over  $\frac{1}{4}$  inch thick and must be fastened with  $\frac{5}{16}$ -inch brass screws. Plywood is obtainable in large sheets and it will be possible to lay the deck in about six pieces: one piece forward, two pieces each side the cockpit, and one piece over the after end. If plywood is not available, the deck can be laid with  $\frac{3}{4}$ -inch mahogany in about 8-inch widths, fitting light battens behind the seams. I should not bother with a covering board. Simply let the ends run out over the deck and cover the end wood with a  $\frac{3}{4}$  by  $1\frac{1}{2}$ -inch flat yellow pine moulding. This will form a very neat job. Do not cover the deck with canvas; just a few coats of deck paint.

The coamings will be made of  $\frac{1}{2}$ -inch spruce or cedar, keeping these low and as shown on the plans. The bulkhead abaft the motor space will be made after the same manner as the stern and should have a  $\frac{5}{8}$  by  $1\frac{1}{4}$ -inch cap across the top. With a row of small hooks around the coaming near the deck and a ridge pole, it will be a very simple matter to spread a spray hood or a night cover when occasion arises for these.

The shaft log will be of the adjustable type like the Hubbard-Erickson, with stuffing box integral, and will of course be fitted inside. The stuffing box will protrude some inches forward of the step so as to be accessible.

The exhaust, especially if a two-cycle motor is to be installed, might as well shoot up through stacks as shown. For purposes of clearness on the plans, I have not shown the gasoline tanks. I should use two: one either side the motor and just ahead of the step. These will be the cylindrical type and hold about 10 gallons each. Pressure developed by a bicycle tire pump, or from a Lunkenheimer exhaust pressure valve, will supply the motor. Keep the tanks low.

The deck fittings are not elaborate. All one needs is a light ring bolt in the fore deck and a pair of 4-inch bow chocks.

The question of cost is vital with most folks, and therefore tanks, steering gear, strut, stuffing box, shafting, and deck hardware can be built for approximately \$850.00, and the materials and workmanship at this price will be first class, and as called for on the plans. The motor cost will depend entirely upon the type of power used and might be any amount from \$50.00 up. The bare materials for the construction will not run to over \$300.00.

As a service to readers who wish to build the little hydroplane Moonshine, and who might want larger copies of the drawings to a scale of one inch to the foot, arrangements have been made to supply blueprints at moderate cost. For price of these, write to the Editor of MOTOR BOATING, 119 West 40th St., New York.





# Beating the World's Fastest Train

with a

# HYDE PROPELLER

*The Teaser Cuts the Twentieth Century's Running Time from Albany to New York by Thirty Minutes*

NEVER since the days of Hendrik Hudson did the waters of the famous river bearing his name witness an epoch-making feat equal to the race between the speed boat Teaser and the running schedule of the world's crack train. Every ounce of power from Teaser's powerful engine was turned into a steady and swift speed by a Hyde Turbine Propeller.

One week after the Teaser's record run, Gar Wood, driving the Baby Gar IV, equipped with a Hyde Wheel, covered the same distance in two hours and fifty-eight minutes. Hyde Wheels are regular equipment on all Baby Gars.

The Hyde Turbine Propeller is of the TRUE screw design. Its large blade areas give the maximum miles per hour. Only manganese bronze of high tensile strength is used in a Hyde Wheel. And this together with Hyde design, finish and balance explains why Hyde Wheels are used on most of the world's famous high speed boats. In cruising and towing service Hyde Wheels also excel.

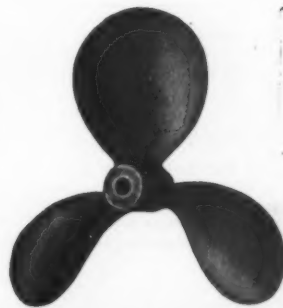
*Our booklet "Propeller Efficiency" tells an interesting and instructive story. May we send you a copy?*

**Write for it today**

## HYDE WINDLASS CO.

BATH, MAINE

U. S. A.



## Up the Hudson and Down Again

(Continued from page 132)

ing against the ebb tide kicked up a chop which made going anything but comfortable, not to mention the effect it had on our speed. Newburgh was passed a 3:15 or one hour forty minutes from Albany, which is just the time required on the way up between these two points.

From the point south, our speed fell off slightly and at West Point we were two minutes behind the up-schedule. Down through the Highlands the south wind continued to increase, also the sea. Across Haverstraw Bay, the water more nearly resembled the Atlantic Ocean than it did inland river. No attempt at high speed was feasible from this point south but in spite of all this handicap the Columbia Yacht Club was reached at 4:40 P. M., exactly 3 hours and 5 minutes from the time we left Albany.

For the round trip our time for the 274 miles had been 5 hours and 45 minutes, an equivalent to a speed of 47.7 miles an hour.

## A Boys' Story of Engines

(Continued from page 25)

operation is completed with the closing of the exhaust valve. This fourth stroke is called the exhaust or scavenging stroke.

Thus, in rapid sequence, we have the suction stroke (piston falling); the compression stroke (piston rising); the power stroke (piston falling); and the exhaust stroke (piston rising).

### The L-Head

While it is easy to form a mental picture of the T-head, with the exhaust valves on opposite sides of the combustion chamber, it is not as easy to build economically this type of engine. We need not go into the reasons for this at the present time beyond stating that the T-head type of engine requires two separate camshafts. One of the shafts must be on one side of the motor, directly beneath the intake valve, and the other opposite it, beneath the exhaust valve. Needless to say, it is better to build an engine with one camshaft if this can do the work of two with equal efficiency.

This elimination is accomplished in the L-head engine, which requires but one camshaft to operate intake and exhaust valves. It takes some stretch of the imagination to picture the L-head type of cylinder as a capital letter of any kind. However if we consider the cylinder bore the leg of a capital L, and the valve pockets as the base of the letter, and then turn the whole thing upside down (like this L), we shall get some idea of why the type has been given this name.

The L-head, then, has both valves of each cylinder on the same side of the firing chamber, spaced close together in a fore-and-aft line. The cycle of operation is exactly the same as in the T-head.

### Overhead Valves

A third type of cylinder construction is the overhead, wherein exhaust and intake valves are both placed in the head of the cylinder, directly above the piston. This type—if you want a letter to call it by—is sometimes abbreviated O. Overhead valves are operated in one of two ways. The older way is by placing the camshaft at one side of the motor, as in the L type of construction, and using push-rods and rocker arms to open the valves.

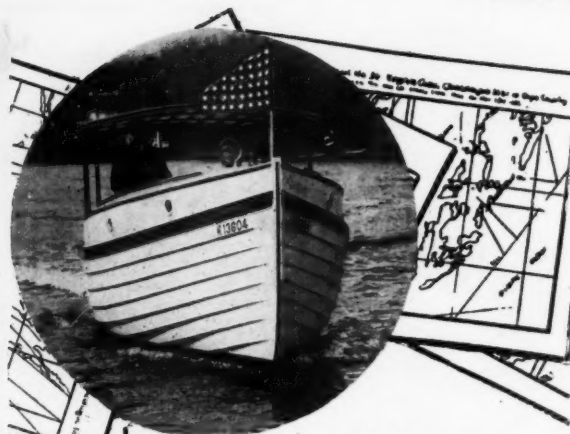
The push-rods are long, vertical stems which extend up at one side of the cylinder. Their upper ends are connected with horizontal arms or rockers which are pivoted on the top of the cylinder. When a cam pushes one of these rods up it in turn pushes against its horizontal arm. The other end of the arm rocks down against the stem of the valve and forces it open.

The new way of operating overhead valves is by placing the camshaft itself on top of the cylinder and opening the valves without intermediate connections. You may wonder why this overhead camshaft method is not the *only* method, since it eliminates the long push-rods. You must remember, however, that the camshaft must be revolved by the crankshaft and that when the former is on top of the motor it is a foot or two away from the latter. Therefore a vertical shaft or intermediate gears must be used to connect the two. This construction presented difficulties which were not readily removed by the early engineers. Moreover, the matter of correctly oiling and silencing the overhead camshaft interfered with its development. But these problems have all been solved, and for operating efficiency there is now little to choose between the two types.

### Head and Side

One other method of valve placement is sometimes employed, and this is a combination of the L-head and the Overhead, called the head-and-side. It is frequently referred to as the

(Continued on page 138)



## 56 New Motor Boatman's Charts as a Gift!

**T**HERE are 37 charts for the Atlantic seaboard from Maine to the Gulf—9 charts of the beautiful Great Lakes region—and 10 others of smaller inland lakes, rivers and canals—56 in all, conveniently bound in one handy book, measuring 8½ by 11½ inches.

All charts are drawn to scale, showing best courses from principal ports and harbors, magnetic courses and bearings, distances in statute miles, lights, buoys, etc., and clearly printed on heavy, durable paper that will not tear in the stiffest breeze.

### Where to Cruise

**A** NUMBER of fascinating routes for you and your boat to follow are suggested in this useful book. And twelve complete cruises are outlined fully.

"Where to Cruise" also gives much other valuable cruising data, helpful notes on how to use charts, characteristics of lights and other major aids to navigation, information as to fuel and supply stations, etc. No boatman should be without a copy of this newest edition of MoToR BoatinG's popular Cruise Book.

### Special Summer Offer

"WHERE TO CRUISE" (Vol. 6, MoToR BoatinG Ideal Series) sells regularly for a good round price, which we are willing to forget if you wish to take advantage of this special offer of MoToR BoatinG for one year, plus "Where to Cruise," for \$3.50. You would pay \$3.50 for a year's single copies of MoToR BoatinG anyway. So the 56 charts are costing you nothing at all.

### MAIL THE COUPON TODAY

MoToR BoatinG, Dept 725,  
119 West 40th Street, New York, N. Y.

Gentlemen: I desire to take advantage of the Special Offer of one year's subscription to MoToR BoatinG and "Where to Cruise" for only \$3.50. Enclosed find \$3.50 (or I will remit \$3.50 on receipt of your bill).

Name .....

Address .....

City ..... State .....

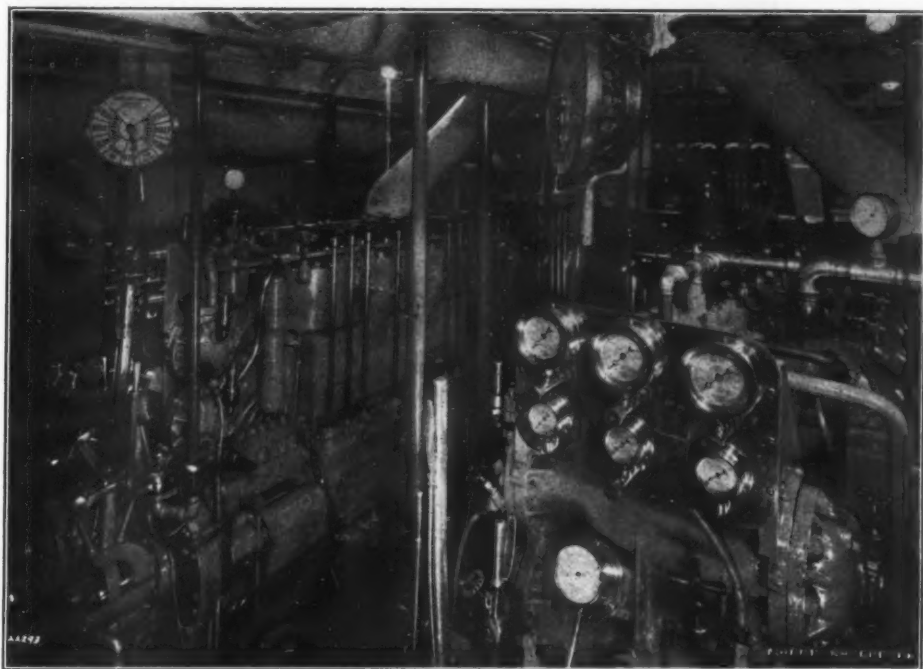
Foreign postage other than Canada, \$1.00 extra a year.

WINTON

# JANEY III

Is Added to the Roster of  
Fine Yachts Powered with

## WINTON DIESEL ENGINES



*Engine room of the Janey III showing her two 200 H.P. Winton Diesel Engines.  
Two 7½ K.W. Winton electric generating sets are also used.*

**T**HE Janey III, designed by John H. Wells, Inc., and built by the Consolidated Shipbuilding Corp., is assured not only reliable and economical power, but also all around superior performance that only Winton engines can give. Winton Diesels are preferred by yacht owners, naval architects and ship builders who demand the most efficient type of marine propulsion.

### THE WINTON ENGINE COMPANY

CLEVELAND, OHIO, U. S. A.

New York—A. G. Griese, Inc., 331 Madison Ave.  
Los Angeles—F. G. Bryant, 219 F. W. Bruan Bldg.

Boston—Walter H. Moreton Corp., 780 Commonwealth Ave.

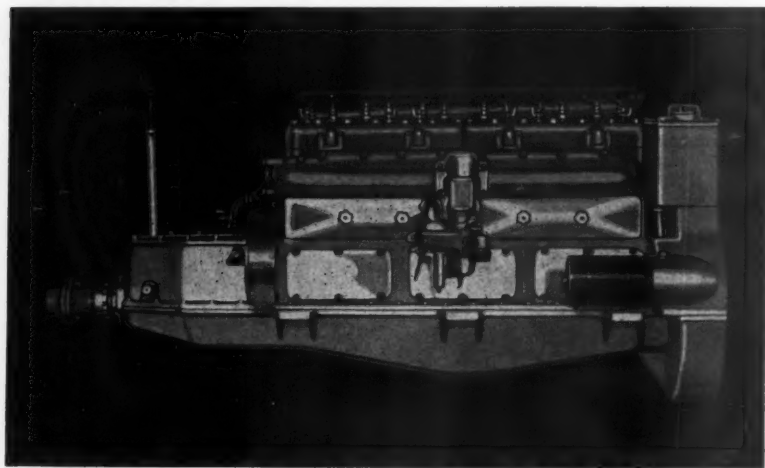
New Orleans, La.—A. Baldwin Company  
Seattle—H. W. Starrett, Sunset Engine Company

Washington—R. L. Fryer, 430 Transportation Bldg.

Cleveland—F. C. Erdman Co., Union Trust Bldg.



# The Power Plant of



Clean and compact, the New Kermath is notable for accessibility.

Representing in its finished form the concentrated experience gained in more than 30 years boatbuilding, designing and experimenting—bringing to its owner the utmost in speed and reliability—it follows naturally the MATTHEWS 38 is powered with the *new* and *greater* KERMATH SIX.

Not only has this new KERMATH speed and power. Just as firmly entrenched in its construction is the day in and day out dependability and sure, quick starting that has made

Kermath boat engines the choice of the majority of good boat builders for many years.

And here is a high-powered boat engine that develops power with a most frugal economy. In this model the reputation made and maintained by Kermath for long mileage on gas and oil, is upheld.

Probably the most advanced design of the marine engine market is found in this KERMATH SIX. The stiff, sturdy crankshaft,

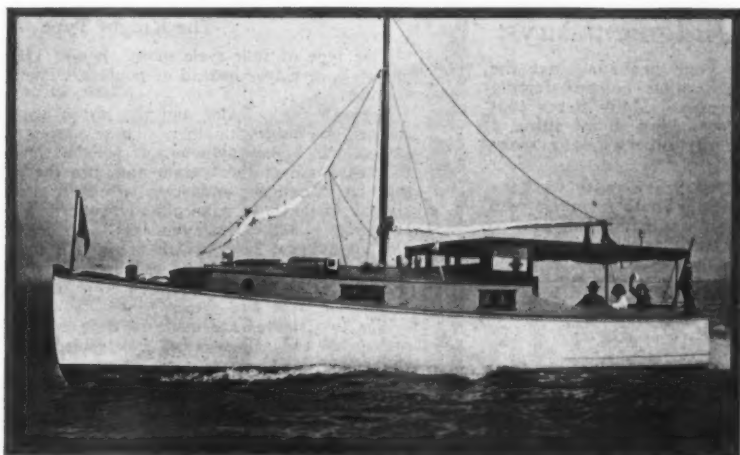
## Kermath Manufacturing Co.

# KERMATH

"A Kermath Always Runs"

3 h. p.  
to  
100 h. p.

# f the Matthews "38"



The Matthews "38." A complete practical cruiser backed by 35 years continuous experience. Kermath Powered.

big enough for an engine twice the size, is held rigidly in seven oversize bearings.

This means a smooth, effortless performance that is new to marine engines.

Then, here also is the 7-bearing camshaft. Held rigidly, it times the engine perfectly and is yet another reason for Kermath uniform power flow.

Carburetion, ignition, lubrication,—each present big forward steps in producing the ideal engine for the Matthews 38. And each was

thoroughly proved in actual service before the Kermath Six was chosen for this ideal summer home afloat.

See the Matthews 38 today if you are interested in this type of boat. Let your nearest Matthews Dealer give you a demonstration. We know you'll convince yourself that here is one of the greatest engines in one of the greatest boats of its size, ever built.

Write us for full information on the KERMATH Six or other Kermaths. There is one for every boat and we'll gladly give you prices and details.

5879 Commonwealth Ave., Detroit, Mich.  
11 E. Wellington St., Toronto, Ont.

\$135.00  
to  
\$1450.00

# KERMATH

"A Kermath Always Runs"



**Good Judgment says:**

Check up your needs against the Carpenter Catalog before starting on your cruise. Many items that go towards making your outing a success might otherwise be overlooked.

For over eighty-five years we have been outfitting boats for men who love the game and it is our aim to carry only such articles as our experience has proved to be useful and practical.

*If you do not have a copy of our 1925 Catalog send for it at once.*

**GEO. B. CARPENTER & CO.**  
MARINE SUPPLIES  
Sailmakers and Riggers  
200 W. Austin Ave. Chicago

## A Boys' Story of Engines

(Continued from page 134)

F type. With this kind of motor the exhaust valve for each cylinder is placed in the side, and the intake valve in the head. A rocker arm is used to actuate the intake valve, and one camshaft does the work of opening both intake and exhaust.

All the types of engines so far described employ poppet valves, which have various defects. They become noisy with wear; their stems may become worn so that the valves do not seat properly; and they may be pitted or warped by the heat of the flaming gases. Nevertheless, poppet valves give remarkably satisfactory service and are almost universally used by manufacturers of marine motors.

### The Knight Type

This type of four-cycle motor, named after its inventor, employs sleeve valves instead of poppets. The method of operation follows:

Between the cylinder and the piston are placed two slidable sleeves, one inside the other. These concentric sleeves are themselves long, hollow cylinders of polished iron which extend into the crankcase at the bottom and into the cylinder head at the top. At the upper ends they are perforated by ports or slots similar to those we have already noticed in connection with the two-cycle motor. The cylinder is also provided with an intake and an exhaust port, which are above the upper limit of the piston stroke instead of at the bottom as they are in the two-cycle. Except for the ports there is no similarity between the Knight and the two-cycle.

The two sleeves are made to slide up and down between the piston and the cylinder wall independently of the movement of the piston. This movement is accomplished by means of an auxiliary crankshaft which takes the place of the camshaft in the poppet valve motor, and is driven off the crankshaft by means of an endless chain. This lay shaft, as it is called, has two crankarms for each cylinder.

One crankarm is joined by a suitable connecting rod to a lug attached to the lower end of the inside sleeve. The throw of this crankarm is relatively small, and the total up-and-down movement of the sleeve may be no more than one inch. The other crankarm is independently connected to the outer sleeve, which it slides in corresponding measure.

This engine has four piston strokes to each cycle of operation, just as other four-cycle engines have. At the beginning of the suction stroke the two sleeves slide into such a position that the inlet port in each of them lines up with the inlet port in the cylinder wall. Thus the incoming gases have a clear path to the combustion chamber. On the exhaust stroke the two sleeves move to such a position that the slots for the exhaust line up with the exhaust port in the cylinder and the burned gases are blown out.

These are the only two periods in the up-and-down movement of the sleeves when the slots coincide and the gases have a clear path. At other times when the gases are not intended to enter or escape, the slot in one sleeve may be aligned with the cylinder port, but the passage is closed because the other slot has moved away. Special compression rings, similar to piston rings, are provided in the cylinder head to prevent the exhaust gases from leaking past the upper ends of the sleeves.

The above classification of four-cycle motors into T-head, L-head, Overhead, Head-and-Side, and Knight completes the types which will be found in American waters. Various types of rotary valves, which uncover and cover ports in the firing chamber by rotary motion, have been invented, but have not been commercially successful.

### Multi-Cylinder Engines

Up to this point in the present chapter I have had in mind a one-cylinder four-cycle motor, because in learning the principle of four-cycle operation it is best not to confuse ourselves with more than one cylinder. As a matter of fact, Knight motors are made only with four or six cylinders, while the comparative number of one-cylinder poppet valve motors in use is very small.

They are objected to on the score that they give only one power stroke to each two revolutions of the crankshaft and must be larger and heavier than the two-cycle one-cylinder, which gives a power stroke on each revolution. The same objection holds good with respect to the two-cylinder four-cycle.

You will remember from the foregoing that a power impulse occurs in each cylinder on every other downward motion of the piston. Now a two-cylinder machine will give a power impulse in each revolution only when the pistons are connected side by side to the same arm of the crankshaft, that is, when both pistons move up and down their cylinders simultaneously. As Number 1 piston descends on its power stroke, Number 2 piston descends on its suction stroke. The next time Number 1 goes

(Continued on page 142)

## MARINE HARDWARE

### at Money Saving Prices

Life Preservers Pillows	- - - -	\$1.00
Comb Lamp Class 1	- - - -	2.10
Stern Light	- - - -	1.50
Brass Bilge Pumps	- - - -	2.10
Galv 12" Steering Wheel	- - - -	1.40

Complete Catalog, with Money-Saving Prices, Free Upon Request.

## ATLANTIC SUPPLY CO.

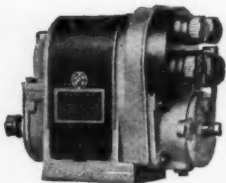
ATLANTIC HIGHLANDS, N. J.

# BOSCH



Trade Mark

This trade mark on a starting, lighting or ignition unit or part stamps it as a genuine Bosch Product—backed by the Bosch guarantee of dependable service.



American Bosch Magneto Corporation  
Springfield, Mass., U. S. A.



## JOHNSON MOTOR PRODUCTS, INC.

MANUFACTURERS

MARINE AND AERONAUTICAL  
MOTORS

518-522 WEST 57TH STREET

NEW YORK, N. Y., U. S. A

TELEPHONE  
COLUMBUS 6523-6524ALL MATERIALS  
U. S. AIR SERVICE REGULATIONS

JUNE 10th, 1925.

TO THE MOTOR-BOATING FRATERNITY,  
EVERYWHERE.

1. ALL JOHNSON MOTORS ARE BUILT FROM NEW AND UNUSED MATERIAL AND STRICTLY ACCORDING TO THE UNITED STATES AIR SERVICE SPECIFICATIONS.
2. NOTWITHSTANDING THE STATEMENTS OF CERTAIN CRITICS, WHILE WE ADVERTISED TO SELL JOHNSON MOTORS DURING THE MOTOR BOAT SHOW IN NEW YORK AT \$3,000.00, WE HAD NO TAKERS AT THAT PRICE.
3. WE RESERVE THE RIGHT TO CHOOSE OUR CUSTOMERS AND TO CHANGE OUR PRICES WITHOUT NOTICE.
4. WE HAVE AFFIDAVITS ON FILE FROM THE ENGINEERS WHO WERE IN CHARGE OF THE MOTOR WHICH HAS A RECORD OF ONE THOUSAND HOURS ON THE GUN AND HAVE SEVERAL OTHERS COVERING MOTORS THAT HAVE EXCEEDED THIS TIME AND ARE STILL RUNNING.
5. WE HAVE NEVER PURCHASED NOR ARE WE INTERESTED IN ANY OBSOLETE, CONDEMNED OR SURPLUS LIBERTY MATERIAL THAT HAS BEEN SOLD AT GOVERNMENT SALES.
6. EVERY MOTOR DELIVERED BY US HAS BEEN TESTED ON THE TEST BLOCK UP TO THREE THOUSAND R. P. M., AND OF ONE HUNDRED SIXTY-FOUR MOTORS DELIVERED IN THE PAST YEAR, WE HAVE NEVER HAD ONE FALL DOWN THROUGH THE FAILURE OF THE MOTOR.
7. THE UNDERSIGNED HAS BEEN BUILDING MOTORS, INCLUDING THE CELEBRATED AND RELIABLE "GLOBE," FOR THIRTY-EIGHT YEARS.

A FAIR PRICE, \$4,250.00, IS ALL WE ASK FOR A COMPLETE MOTOR, READY TO HOOK ON THE GAS LINE AND BATTERY WIRES. THERE ARE NO EXTRAS TO BUY.

JOHNSON MOTOR PRODUCTS, INC.

  
PRESIDENT

## OTHER BOOKS OF IDEAL SERIES

All Published by **MoToR BoatinG**  
 119 West 40th St., New York, N. Y.

### VOLUME I.—Designs of Ideal Motor Boats

This volume describes in detail how to design a motor boat. It also contains complete plans of 30 Cruisers, Runabouts and Auxiliaries. The plans include lines, table of offsets, interior plans, profiles, construction details, etc. There is no other book published at the present time which describes in everyday language the details of designing a boat according to your own tastes. The plans of Ideal Cruisers, Runabouts and Auxiliaries are complete in every particular. They include the best of the plans published in MoToR BoatinG during the past several years. The plans include boats of from 20 feet in length up to 40 feet. The drawings are all to scale and large size.

### VOLUME II.—How to Build Sixteen Ideal Motor Boats

This book gives complete information for building the following boats: 10-foot mark boat, 12-foot outboard motor boat, 12-foot speed boat, 12-foot bungabout, 13-foot sea skiff, 16-foot sharpie, 18-foot runabout, 20-foot monoplane, 20-foot hydro-runabout, 20-foot knockabout, 20-foot tunnel stern, 22-foot V-bottom runabout, 25-foot V-bottom cruiser, 25-foot round-bottom cruiser, 28-foot cruiser (Consort II).

Every article is fully illustrated with working drawings and no information or instructions are missing which would be of assistance to the novice to build his own boat.

### VOLUME III.—Twelve Complete V-Bottom Designs

This book contains plans expressly prepared for MoToR BoatinG by William H. Hand, Jr., and is the most valuable ever published for the amateur builder or anyone desiring to have a V-bottom boat built by his own builder.

The plans contain outboard profile, lines, inboard construction, and interior arrangement, plans, sectional views and complete table of offsets. Accompanying each design is a description of the boat and a full set of specifications taking up step by step each feature of the boat's construction, how it should be built and the proper material to use.

Plans and specifications of the following boats are included: Edith, a 15-foot runabout; Jane, an 18-foot runabout; Katherine, a 30-foot cruiser; Dorothy, a 25-foot runabout; Zenith, a 25-foot cruiser; Cyclone, a 36-foot auxiliary; Eclipse, a 40-foot express cruiser; Magnet, a 28-foot cruiser; Tornado, a 45-foot auxiliary schooner; Broncho, a 29-foot cruising runabout; Shark, a 21-foot utility runabout; Claire, a 36-foot express cruiser.

### VOLUME IV.—Twenty Easy-to-Build Motor Boats

These plans have been prepared especially for MoToR BoatinG and are complete in every particular. They are in detail enough to permit building from direct, either by the amateur or professional builder. No part of the boat's design or construction has been omitted or slighted.

Read the contents: Chum, a 16-foot Motor and Sail Craft; a 9-foot Easy-to-Build Dinghy; Nomad, a 34-foot Cruiser; a 9-foot Sharpie; Porpoise, a 20-foot Auxiliary Cat Boat; Kingfisher, a 14-foot Fishing Skiff; Shrimp, a 25-foot Hampton Boat; Flattie, a 16-foot Utility Boat; Dolphin, a 34-foot Tunnel Stern Cruiser; a 9-foot Dory; an 8-foot V-Bottom Tender; Penguin, a 25-foot Auxiliary Sloop; Sea Gull, a 41-foot Auxiliary Schooner; Whale, a 20-foot Cruiser, that's a Real Cruiser; Tarpoon, a 29-foot Raised Deck Cruiser; Alligator, a 28-foot Tunnel Stern Cruiser, a boat that will run in water little deeper than a heavy dew; and Mud Turtle, a 36-foot Stern Wheel Motor Boat. Rookie, a 20-foot Auxiliary Sloop; Nautilus, a 40-foot Tunnel Stern House Boat. Victory II, the Cruising Champion; Complete Bills of Material for Building.

### VOLUME V.—Piloting, Seamanship and Small Boat Handling

This book has been published in response to repeated requests for us to bring out in complete book form MoToR BoatinG's Correspondence Course, the wonderful illustrated course in Piloting, Seamanship, and Small Boat Handling which has been appearing regularly in the issues of MoToR BoatinG since February, 1921. It is profusely illustrated with nearly three hundred cuts and diagrams. MoToR BoatinG's Correspondence Course proved to be the most successful and most popular feature ever undertaken by a boating magazine. Thousands of readers became better boatmen by studying this course. Now you will want it in permanent book form to keep abroad your boat for reference and guidance. This course was prepared with an entirely new idea in text book or correspondence instruction. Instead of page after page of dry text matter with only occasional illustrations, it is composed mainly of pictures, drawings, photographs, charts and diagrams, covering every situation and every point with the purpose of each picture clearly explained by a concise and simple title. You will find this book more enjoyable and easier to understand than any text book you ever read. You will find it correct and authoritative because it has been prepared by experts with years of boating experience and every necessary reference at hand. You will find it easy to read and easy to remember because each chapter is reviewed by pertinent questions which reveal your understanding of the lessons. The preparation of this Course has cost thousands of dollars. These books would easily cost \$10.00 each if the work was undertaken for book purposes alone.

### VOLUME VI.—Where to Cruise

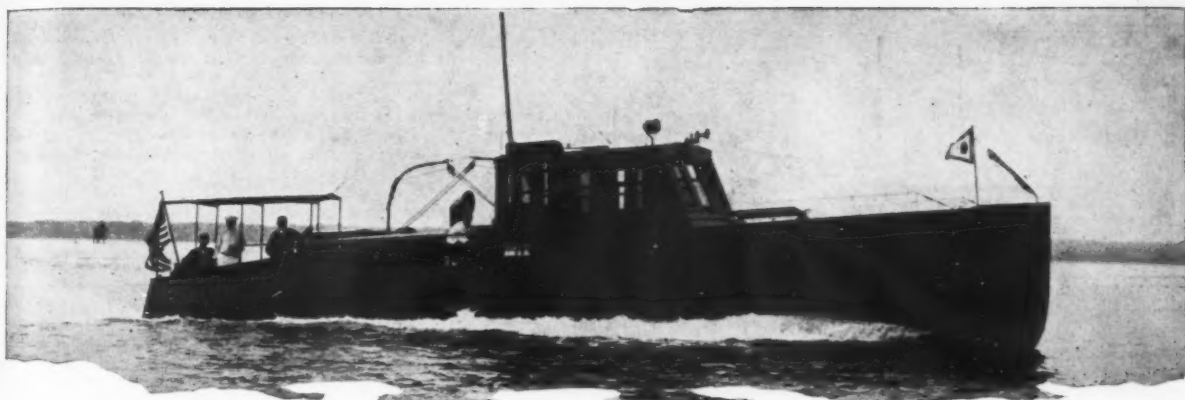
This book of charts contains the most suitable courses between principal ports and harbors as well as magnetic directions, distances in statute miles, all principal lights, buoys, etc. These charts are all drawn to a scale and have proven invaluable to motor boatmen while cruising or planning a cruise. Much other valuable cruising data is given in the book. This includes information as to fuel and supplies, the outlines of several complete cruises, a schedule for a twenty-day trip to Florida, and the addresses of all government chart agencies.

### Prices of Books of Ideal Series

Price of single copies of Volumes I to VI.....	\$2.00
Price of single copy Volume VII.....	3.00
Price of any five books of the Ideal Series, ordered together is.....	7.50
Price of any six books of the Ideal Series, ordered together is.....	9.00
Price of all seven books of the Ideal Series, ordered together is.....	10.00
Postage Prepaid in U. S. and Canada.	
Foreign Postage: single copies, 50c. extra; sets, \$1.00 extra per set.	

*Mail your order today, enclosing check or money order*

**MoToR BoatinG, 119 West 40th Street, New York, N. Y.**

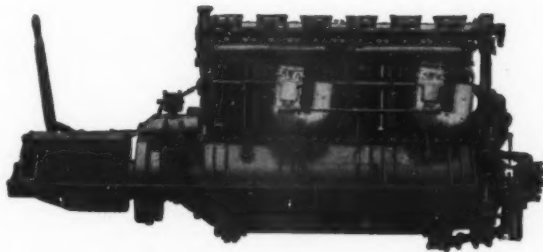


*Kensington, a 57 ft. speed yacht designed by J. Murray Watts, of Philadelphia, and owned by Geo. S. Cox of the same city. Two 300 H.P. Detroit Marine-Aero (Fiat Type) engines give the Kensington a speed of 30 miles per hour.*

## The Foremost High Speed Engines

### Detroit Marine-Aero

(Fiat Type)—300 H.P.



300 H.P. Fiat Type.

The price of this motor is \$3,000 f.o.b. Detroit

IN the 300 H.P. class the Detroit Marine-Aero (Fiat Type) engine stands out as the best buy. It is a high-grade engine through and through, built to endure continuous service in speed runabouts and fast cruisers. It has proven its stamina for driving heavy loads at high speeds, without faltering, so forcefully that it is fast replacing other plants in heavy sea fishing boats. Today, there are more than 100 in use on the Atlantic seaboard alone.

### Detroit Marine-Aero Engine Co.

409 Connecticut Ave., Detroit, Mich.

Eastern Distributors and Service  
SEXTON MOTOR COMPANY  
149 Washington Street,  
New York City

Florida Distributors and Service  
J. R. SUTCLIFF  
209 N. Narcissus Street,  
West Palm Beach

Chicago Distributors  
HUBBARD H. ERICKSON & CO.  
3037 N. Western Ave.,  
Chicago, Illinois

ATLANTIC BOAT YARD CO.  
201 Southwest 6th Street,  
Miami, Fla.

### Gar Wood-Marine

400 H.P., 500 H.P.

THE Gar Wood-Marine engine is the talk of the boating world today. Many records are hung on its belt. But outstanding is its victory over the Twentieth Century, the world's crack train. Gar Wood driving a Baby Gar powered with a 500 H.P. Gar Wood Marine engine, covered the distance between Albany and New York, 138 miles in 2 hours and 58 minutes, beating the train by 38 minutes.

The 400 H.P. model is equally popular with yachtsmen and has won leadership in its class through its adaptability to service under most trying conditions in fast runabouts and cruisers.



Type T25 400 H.P. at 1700 R.P.M.

### Gar Wood, Inc.

Pacific Coast Distributors  
A. G. KERR  
1200 4th Ave., South,  
Seattle, Wash.

Havana Distributors  
A. M. PUENTE & CO.  
Egido 10,  
Havana, Cuba





## Elgin Unit Control

is standard equipment on

### Baby Gars

THE remarkable speed made by Gar Wood on the Hudson in a Baby Gar, ELGIN equipped, surpassed the speed made by the 20th Century Limited and proved to even the most skeptical that high speed may be maintained in perfect comfort, safely and always under control.

These record-breaking boats are the last word in appointments and appearance. *Unit* control means perfect control and positive knowledge of the motor's performance at all speeds, essential to efficiency and economy.

The Elgin *Unit* Control Board contains the Elgin Chronometric Tachometer, Ammeter, Oil Gage, Motor Thermometer, Air Gage or Clock, indirectly lighted, all under one glass—built by the same craftsmen who have made ELGIN the watchword of the world.



TACHOMETER DIVISION

**Elgin National Watch Company**

86 E. Randolph St. • Chicago, Ill., U. S. A.

## A Boys' Story of Engines

(Continued from page 138)

down it is on its suction stroke while Number 2 is on its firing stroke.

The fault of this arrangement is that the crankshaft is out of balance and must be corrected by heavy counter-weights. A way out of this difficulty would be to lay the cylinders on their sides, putting one on one side of the crankcase and the other opposite it. Then the throws of the crankshaft would be opposite and the engine would fire rhythmically and without excess vibration. A two-cylinder motor of this type is called the *double opposed*. It was formerly used in certain makes of automobile, but has never been popular in marine use because of the amount of room it takes up and because of oiling difficulties.

It is also possible to build a vertical two-cylinder motor with opposite crank throws and a balanced crankshaft. But, unfortunately, an engine constructed in this way fires twice in one revolution and not at all in the next. What is gained by balancing the shaft is lost in the vibration of the uneven power impulses.

Nevertheless, two-cylinder engines of this kind have been made, and I shall never forget my first sight of a boat that was equipped with one of them. I was down in the Everglades of Florida at the time, navigating one of the canals that had been opened a few weeks before. The canal and the surrounding marshes were lonely and weird, and I was just saying to myself that it was the kind of country where anything might happen, when I heard a curious noise ahead of me.

The noise went crash-bang and stopped; then again crash-bang, and another long pause. This series of double explosions with long pauses between continued for several minutes, growing louder all the while, when finally around a turn in the canal I saw a big motor boat approaching. If the mysterious boat had sounded queer, it looked a whole lot queerer, because with each pair of violent explosions it shook from stem to stern, picked itself up and shot ahead like a broad-jumping jack rabbit. Then while its two-cylinder motor was dawdling through the non-working strokes, the boat dropped into the water again, and settled back to take things easily. No sooner had it stopped, however, and started to drift backward, than the double-barreled cannon in its interior went off and shot it ahead again. A tidal wave rushed out from the boat's bow at each jump which threatened to sink the Everglades.

I made up my mind then that I would never own a two-cylinder four-cycle motor with balanced crankshaft. It is better to have a little ordinary vibration than to proceed through the water by leaps and bounds.

Three-cylinder four-cycle motors are also made, but it is not until we come to four cylinders that we reach practical efficiency with this type of motor. In the four-cylinder machine we have a balanced crankshaft, wherein the two end arms are up while the center arms are down. One explosion occurs with each revolution of the crankshaft.

The *firing order*, or rotation in which the power impulses occur in a four-cylinder engine may be either 1-2-4-3, or 1-3-4-2. In neither case, you will note, does the engine fire from forward to aft in direct succession.

A 1-2-3-4 is impossible for two very good reasons. The first is that the standard crankshaft does not permit it. The second is that if a crankshaft were built with alternate arms 180 degrees apart to allow a 1-2-3-4 firing order, the vibration and whip would be so great that the engine would soon ruin itself. This recalls the fact that when large bodies of soldiers cross a bridge, they always march out of step. If they marched along in step—one, two, three, four, one, two, three, four—the rhythm of their stride would set the bridge swinging and might knock it down.

An inspection of the accompanying diagram will help you to understand what takes place in all the cylinders of a four-cylinder engine during two revolutions of the crankshaft.

Cylinder	1	2	4	3
1st Stroke.....	F	C	S	E
2nd Stroke.....	E	F	C	S
3rd Stroke.....	S	E	F	C
4th Stroke.....	C	S	E	F

F, firing; E, exhaust; S, suction; C, compression.

Six-cylinder engines give an even smoother flow of power than the four, since each impulse stroke partly overlaps that of the cylinder which fires next in rotation. The overlapping of power strokes is still further intensified in straight eights and in V-type eights and twelves, and in the last named we have a power stream whose smoothness is exceeded only by an electric motor or a steam turbine.

Discussion of the refinements and the achievements of these. For the present it is well to remember that the operating principle of the humblest, clumsiest, one-cylinder four-cycle fishing motor is exactly the same as that of the splendid engines in the world's fastest racing boats.

of  
A  
er  
er  
s  
e  
nt  
h  
er  
l-  
er  
er  
as  
of  
en  
ng  
eli  
en.  
h-  
ons  
ng  
l l  
ad  
ch  
cel  
en  
on  
nd  
ed.  
led  
dal  
at-  
vo-  
ter  
the  
not  
ncy  
e a  
nile  
ach  
cur  
In  
ard  
first  
ond  
ees  
hip  
his  
dge  
p-  
their  
wn.  
a to  
our-  
wer  
t of  
of  
and  
have  
elec-  
these  
inci-  
oter.  
hing  
the